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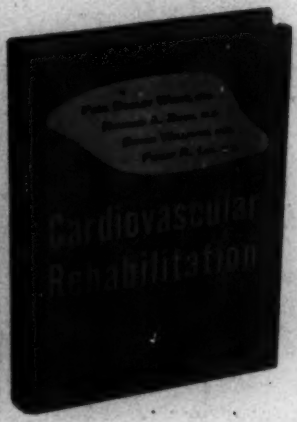

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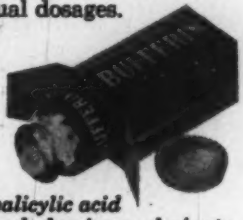

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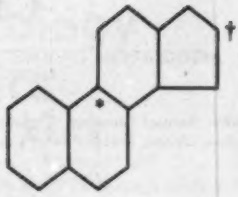

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Annual Congress on Medical Education and Licensure—February 8-11; Palmer House, Chicago.

Fifth Annual meeting of the Society of Nuclear Medicine, Los Angeles, California, Beverly Hilton Hotel, June 19-21, 1958.

International Congress of Internal Medicine—April 24-26, 1958; Sheraton Hotel, Philadelphia.

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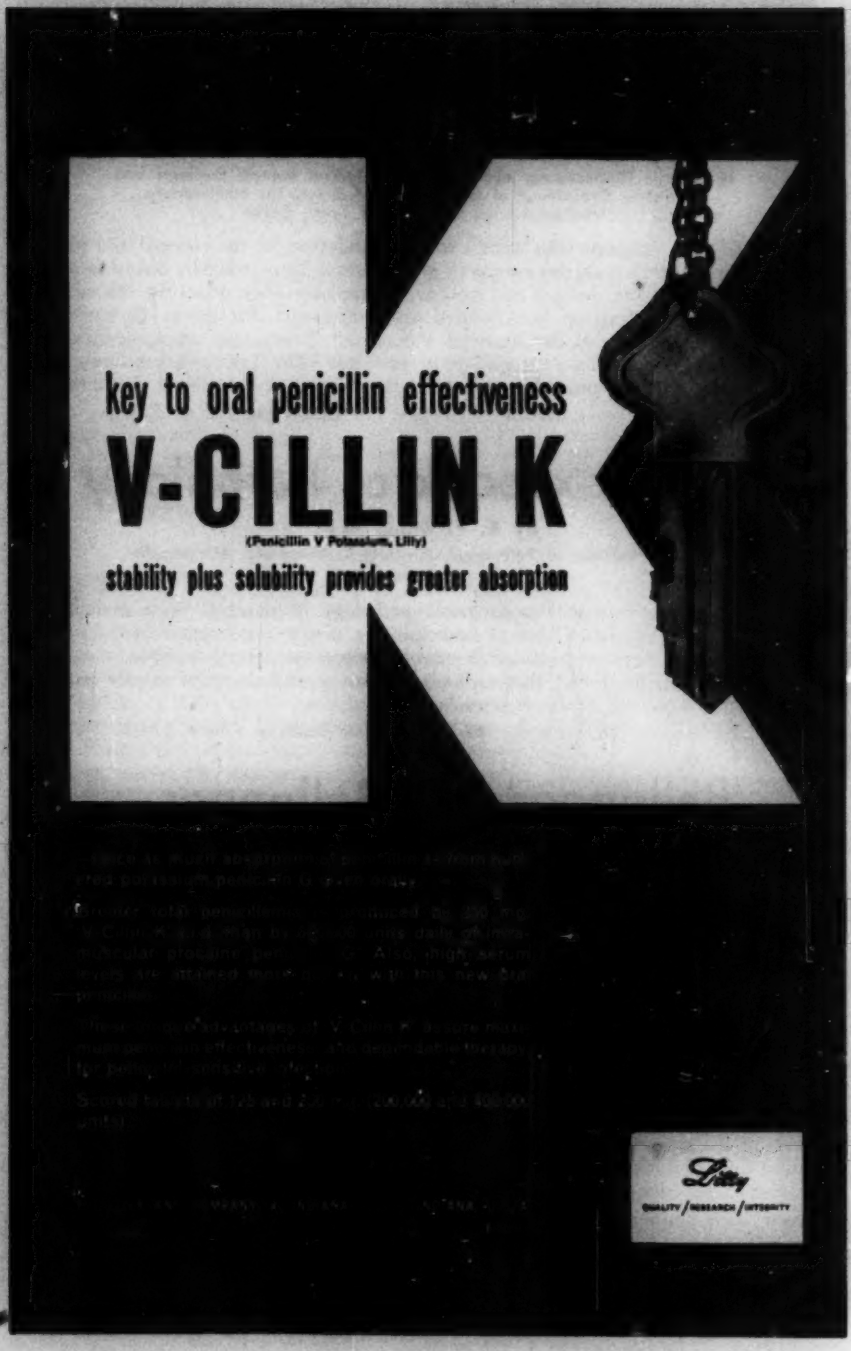
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*The American Foundation: Medical Research: A Midcentury Survey, Boston, Little, Brown and Company, 1955, vol. 1, p. XXXI.
**Ibid., p. 600.

The Role of Anatomy in Medical Education*

GEORGE W. CORNER, M.D.†

ALL OVER THE world today, the teaching of anatomy to medical students follows an almost standard pattern. It may, therefore seem surprising to some that this pattern is hardly a century old. Everywhere nowadays anatomy comes first in the strictly medical part of the curriculum. Now at last the student who has been learning about biology in general passes to the study of man himself. The day when the medical student enters the dissecting room is the day of dedication to his career, for then he first assumes the special task of his profession, taking upon himself the privilege and the responsibility of understanding the human body. Although in some countries the student may, at the same period, begin also to attend clinical demonstrations on living patients, there he is merely a spectator. When he is first trusted to apply his own hands responsibly to the work of his profession, that accolade is conferred in the dissecting room.

This, however, has not long been the case. Until the second quarter of the last century and, indeed, even later in many places, the student did not go to medical school until after he had served a long apprenticeship in the sick room. Benjamin Rush, for example, the great Philadelphia physician of the Revolutionary period, was John Redman's pupil for five years before he went to Edinburgh to become an academic student of medicine. During that time he helped to nurse the sick, compounded prescriptions, assisted in minor operations, and kept the doctor's accounts. He read the clinical textbooks of Boerhaave and Sydenham and attended rounds at the Pennsylvania Hospital. Although as a Philadelphian he had a special opportunity to attend anatomical lectures—those of William Shippen—in the 2nd and 4th years of his apprenticeship, he never dissected a human body until after he received his M.D., seven years after he first learned to cup and bleed patients and mix the potions his master prescribed.

HUMAN DISSECTION

At the end of the 18th century, human dissection was, in fact, a kind of post-apprenticeship training, pursued only by the more ambitious students, especially those who wished to prepare themselves adequately for major surgery. The profound change from this situation to the present curriculum, in which every medical student is required to dissect with his own hand, is the latest stage in a long, hard-fought campaign for laboratory training in anatomy.

When in the 14th century the medieval prejudice against human dissection at last gave way, it became possible to supplement the teaching of anatomy from books with actual demonstrations upon the cadaver. At first

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*Presented at the dedication of the Bardeen Medical Laboratories, University of Wisconsin, May 17, 1957.

†Historian and affiliate, Rockefeller Institute for Medical Research, New York, N. Y.

such dissections were held in public, sometimes (it is said) in churches, and took on the character of dramatic performances, as is shown in idealized form on the title page of the great *Fabrica* of Vesalius, 1543. The professor lectured from his elevated chair, often with a volume of Galen before him, while a prosector at the dissecting table exposed and demonstrated the internal structures of the body. One or two such public anatomies each year in the principal centers of medical instruction were thought sufficient, and indeed it was difficult to get cadavers enough for even so limited a schedule. In the 16th century, medical schools began to erect special theaters for anatomical demonstration, with high-banked seats rising above the prosector's pit. The first of these, built at Padua in 1549, survives in perfect condition. As the detailed knowledge of human anatomy increased, the teachers began to require special preparations dissected in advance, and thus the chair of anatomy acquired a prosectorium in which the professor's assistants were able to dissect privately. The need of keeping good preparations for repeated use led to the development of anatomical museums. The equipment of a department of anatomy now consisted of the amphitheater, a dissecting room or two for the prosectors and a few surgical pupils, and a storeroom or museum. Anatomy was at this stage of development when European medical education was transported in colonial times to America. One of our oldest schools, the University of Maryland, still has its Anatomical Hall, designed and built in 1812 to fill exactly the needs which I have described. Its four, small, dungeon-like dissecting rooms are provided with secret spiral stairways hidden in the walls in case the excitable people of Baltimore should raid the establishment, as they had in fact done when the school was in a smaller building a few years before.

Meanwhile, the surgeons, feeling the need of more detailed knowledge of gross anatomy, opened extramural dissecting schools for small groups of private pupils. The most famous of these was that conducted by William and John Hunter in London, which, under the guidance of these two men of genius, became a center of anatomical research as well as of instruction in surgical anatomy. As late as 1840, the Philadelphia School of Anatomy was providing extramural courses for the students of the city's medical schools. In 1833 the University of Maryland and in 1835 Daniel Drake's school at Cincinnati began to require all students to take at least one ticket for a course in anatomy. This meant a certain amount of actual work with their own hands—how much, is difficult to say. In 1840, the Geneva Medical College had only one cadaver for its 30 or more students. In 1849, the University of Pennsylvania, Jefferson, the College of Physicians and Surgeons of New York, and Yale still did not require a course in dissection before graduation.

Thus, dissecting by all students as a curricular requirement is only a little more than a century old. Actually, more and more students must have been seeking opportunities for dissection before the requirement was instituted, as is indicated by frequent scandals over body-stealing and even rioting against the anatomical departments, of which the Doctor's Mob episode of 1789 in New York City and the affair of Burke and Hare at Edinburgh in 1827 are the best known. The American states met this situation at first by redoubling the penalties for body-stealing, but ultimately by legalizing the dissection of unclaimed

bodies. The Massachusetts General Court passed America's first real Anatomy Act in 1831, ahead of England's Warburton Act of 1832. Thus facilitated by laws based upon educated public opinion, complete dissection of the human body by all students became an accepted feature of the modern medical curriculum.

Advances in Surgery

The demand that all physicians acquire an intimate acquaintance with the human body that could be gained only by thorough dissection arose partly from the general advance in medical science that was going on during the first half of the 19th century, but it was powerfully reinforced by the increasing boldness of operative surgery. Between 1750 and 1850 the surgeons of Europe and America revived plastic surgery, began to tie the great and deep arteries deliberately for aneurisms, learned to resect such critical structures as the lower jaw, repaired large hernias, and did not hesitate to amputate at the ankle, shoulder or hip. Americans were not behind the Europeans in this advance. It was our own McDowell who first extirpated an ovarian tumor, and we had our school of "Bold Surgeons." The greatest among them, Valentine Mott, was the first to attempt ligation of the innominate artery; he successfully tied the common iliac at its origin, tied both carotids simultaneously (though with a fatal result), and did a successful amputation at the hip joint—all before 1846! Men who undertook surgery on this scale without anesthesia had to work fast. They had no time to fumble or search about in the body of an agonized patient, and without artery clamps they simply had to find and tie all arteries before cutting them. Topography and relations had to be memorized in advance. Life itself hung upon a quick sure incision and instant localization of key structures in the field of operation. As the medical student, working on the cadaver, traced in leisurely fashion the course of the great arteries and worked out their relation to the overlying muscles and the accompanying veins and nerves, he knew full well that this was the last time he could work slowly. As a surgeon he must know his anatomy to the last detail and apply his knowledge instantly.

It is a curious paradox that when at last the medical schools had won for every student the privilege of completely dissecting the human body, at that very time the scientific level of the anatomical profession was in a grave decline. Gross human anatomy had in fact almost ceased to be a fertile field for research. The body had been well explored, and after about 1800 there was little chance of making great new finds by the use of scalpel, probe, and forceps. The best medical brains were going into other fields of research. Concurrently, the need for drilling a student in details useful to the surgeon had brought to the chairs of anatomy pedagogues and task masters rather than scientific explorers. Although the student, given free access to the cadaver, with good textbooks and atlases at his side, no longer needed descriptive lectures and amphitheater demonstrations the antiquated lecturing went on three or five times a week, until the whole textbook had been recited by the professor over preparations which most of his audience could see only with the aid of opera glasses. A few of the great teachers, Corydon Ford at Ann Arbor, Oliver Wendell Holmes and Thomas Dwight at Harvard, for example, knew how to enliven their lectures by professional enthusiasm, by wit and

humor, poetic diction, or literary finish. Delivered from such rostrums, the old time didactic lectures could still be an inspiring introduction to medical studies, but at its worst the system was utterly dreary, especially in the United States, where medical education had largely escaped from the intellectual influence of the universities.

Formal descriptive lecturing began at last to die out about 1890. The College of Physicians and Surgeons, now of Columbia University, was the first to abandon the practice, under George Huntington's leadership, in 1889; but it lingered long in less progressive schools. As late as my own medical student days, from 1909 to 1913, I used to see unfortunate pupils of one of the Baltimore schools, now extinct, carrying large canvas-bound ledgers in which they had to copy the anatomical lectures of their professor.

The opportunity for all students to dissect did not at once bring the spirit of free scientific inquiry into the anatomical laboratories. Even the dissecting rooms, where of all places a serious, devoted spirit should prevail, could be the scene of perfunctory and careless work. Augustus Pohlman, who began his medical studies about 1897, tells us that at his school "Gray's Anatomy was the family bible—the book was the thing and the cadaver merely an accessory before the fact, mutilated at night under the most sordid conditions." Mall in 1905 wrote that in all but a few of our American schools "the dissecting room was a pretty poor specimen of a laboratory, mainly because of the lack of competent instructors." Even in 1910 Abraham Flexner still found surviving in some places "the dingy, ill-lighted, malodorous dissecting rooms, where inexpert boys hack away at a cadaver until it is reduced to shreds."

Reform of Anatomical Teaching

American dissecting rooms are what they are today in all our schools—clean, orderly, well-equipped laboratories for serious, responsible students of anatomical science—largely because of the efforts of a few men who began the reform of anatomical teaching in the years around 1890. When George Huntington abandoned the practice of lecturing to large classes at the College of Physicians and Surgeons, he substituted teaching by close-up demonstrations to small sections. At Harvard, Charles Sedgwick Minot built up a strong department manned by qualified investigators. In 1893, Franklin P. Mall began instruction at the new Johns Hopkins Medical School, where he had built not a great dissecting hall such as the other schools had, but a series of small dissecting rooms as much like research laboratories as he could make them. Under the guidance of competent full-time instructors, all the students dissected well-preserved bodies in an atmosphere of dedication to science. Here it was that Charles R. Bardeen first studied and taught anatomy. These leaders quickly began sending out their best pupils to other schools. At least 18 of Mall's staff became full professors and department heads.

It would have been difficult thus to rebuild anatomy as a scientific discipline if the subject matter had been confined to gross human anatomy, since as I have said, the problems of adult morphology had largely been solved. Surgical anatomy was no longer attracting investigators of the pioneer type. Furthermore, operative surgery had itself undergone a revolution following the introduction of ether and chloroform. Surgeons no longer had to operate with lightning speed; deep-lying structures could

now be dissected out calmly and far more accurately at a reasonable pace; memorization of anatomical relations was no longer at a high premium.

The utilitarian tradition that anatomy was only a handmaiden to surgery still held on, however, wherever anatomists did not comprehend its new status as a department of human biology. Fielding Garrison pointed out in the first edition of his *History of Medicine* (1913) that in England, where medical anatomy was then still limited to the dissecting room and amphitheater, there had been no great anatomist since the time of Sir Charles Bell.

In the United States, as in Germany, anatomy saved its intellectual soul by extending its scope to include microscopic morphology. When histology courses first became established in our schools, in the 1880's, they were conducted by the anatomy departments, not by physiologists, as in Britain. This allocation spread to all our schools, and when in the 1890's the microscopic anatomy of the nervous system also took its place as a separate course of instruction, it, too, was taught by anatomists. The great opportunities for research afforded by these live and rapidly growing branches of anatomical science readily appealed to active-minded young men. The leaders of the movement boldly offered places in their laboratories not only to medically trained teachers but also to zoologists trained in comparative anatomy, experimental embryology and cytology. Within three or four decades the anatomy departments of most of our good schools became active centers of research where even gross human anatomy, revivified by contact with the newer anatomical sciences, adopted experimental technics and new methods of study, such as the x-ray and thus regained something of its old prestige as a scientific discipline.

Bardeen at Wisconsin

At the very height of this movement, Charles R. Bardeen came to the University of Wisconsin, bringing to the department of anatomy his excellent medical training, long experience in embryological research, and intelligent ideals of medical education wrought out in collaboration and discussion with Mall. With great success he developed the work here along new lines, contributing valuable ideas of his own—for example, in his early and skillful use of the x-rays in topographic anatomy.

The progressive leaders carried out their reform so thoroughly indeed that, in the opinion of many conservative medical men — and especially of the surgeons—they went too far. The new anatomical departments were accused of not teaching anatomy at all. Their M.D.'s, the critics said, had lost touch with medicine and the Ph.D.'s had never understood it. In Baltimore, Mall was under heavy fire, and to this day there are Johns Hopkins medical alumni who claim that they simply were taught no anatomy in his laboratory. One of these critics, the surgeon Bertram Bernheim, published a few years ago his book, *The Story of the Johns Hopkins Medical School*, in which he devoted a whole chapter to the failings of Mall's program. He said that he himself learned so little in the dissecting room that he had to steal part of a cadaver and take it home with him to his father's farm, where he dissected and studied all summer. In a review I wrote of Bernheim's book, I couldn't resist kidding him. I said "Here was a young man who expected to be lectured and quizzed into learning anatomy by the

book, but Mall fooled him into learning it for himself from the cadaver." When, a few years later, Bernheim began to make himself one of the pioneers of blood vessel surgery, a field in which there were no lectures and no textbooks, because he had learned how to investigate for himself he became an original, inventive, and self-confident surgeon.

In the long run, most students came to realize the advantages of learning anatomy in the research spirit under a staff of scientific investigators, and, as it turned out, the generation of young men trained by teachers like Mall and Bardeen developed surgeons at least as good as their predecessors and better physicians.

In time, the criticism died down. Work in the dissecting room has become a scientific discipline, not merely a long effort to memorize endless details. Anatomy departments are now laboratories of human biology, investigating the function as well as the form of human tissues.

The Anatomists' Responsibilities

The anatomists who teach and do research in our medical schools continue to carry a peculiar double responsibility. Under their guidance the students begin a subject which they know to be critically important for the practice of medicine and surgery. They will feel deprived and disappointed if all they get is general biology when they want to know the anatomical basis of physical diagnosis and surgical operations. On the other hand, their teachers, remembering the degradation that overtook their ancient science when it became merely a handmaiden to the surgeons, will never be content to give merely practical instruction for present needs. By activity in research, and by teaching in the spirit of inquiry, they will show their pupils that anatomy in all its branches is an intellectual discipline able to share in the advance of knowledge.

The anatomists can develop, better than any other of the medical teachers, certain mental attitudes necessary in the study of medicine. First of these is respect for the human body. Here on the cold table in the dissecting room lies what is left of a man, destined to be taken apart to gain some increase of knowledge wherewith to fight the disease or ignorance that laid him low. In one corner stands a skeleton such as anatomists have cherished since time immemorial, and in another corner is the x-ray viewing box, symbol of a new generation's instrument of research. Here of all places—in this shrine of an ancient and modern science—the future physician can learn by the example of his teachers to look upon the human body as an awesome marvel of structure which he must reverently understand in death if he is to guard it in life.

Here, too, is the first and best opportunity in the medical course to teach the greatest lesson of all—that everyone must learn for himself. All medical students, even those who have heretofore been spoon-fed and over-guided until they distrust or even ignore their own capacities, can and must learn in the dissecting room that nothing really counts in the profession except one's own independent understanding. Here the pupil, as he works with scalpel and forceps, cannot help realizing that the responsibility lies upon him to learn the facts and the skills upon which will depend the safety of lives which in a few years he is to take into his own hands.

Another good lesson the anatomist can teach is to work with style. The physician's life is full of somber duties through which he can render

noble service to his fellows, but only if he performs such tasks with dignity and with the finish that marks the professional in every field. Nowhere is this more evident than in the dissecting room. A hacked and battered cadaver is a distressing sight, but a good dissection can be a scientific work of art. When the student comes to feel this, he is on his way to professional excellence.

Across the corridor or on the next floor, wherever the histology laboratory may be, the teachers of microscopic anatomy have a lesson they can exemplify better than anyone else, certainly better than the pathologists and the surgeons. This is the essential delicacy of human tissues, that strange coordination of vitality and fragility depending upon life forces which hold together the myriad molecular elements of the cells and fibers in the precarious equilibrium that distinguishes life from not-life, health from disease. A profound sense of structure at the cellular level is necessary for the physician as well as the biologist. How can anyone understand the function of the lung or kidney who has never seen a blood capillary stretched out in a fresh bit of tissue, with its walls a hundred times thinner than paper? The student, when he becomes a surgeon, will operate with a gentler hand if he remembers what it looks like under the microscope to see a mouse-tooth forceps punching ghastly holes in the smooth surface of a serous membrane, and if he recalls how many thousands of beautiful, intricate, sensitive muscle cells can be crushed to death in the harsh bite of an artery clamp. I used to let my histology students get the feel of the lymphatic system by giving each a sow's uterus from the slaughter house, in which peripheral lymphatics are very large and easy to demonstrate by injecting ink with a hypodermic syringe. After an hour spent in watching the astonishing spread of his injection through the marvelously rich and complex network of these frail vessels, the student had an unforgettable picture of the anatomical basis of edema and the spread of cancer. These things are in the books, and can be seen after a fashion in stained slides of human organs, but only the histologist can help the students to appreciate by their own efforts the bodily texture and what it means in physiology and medicine

Finally, the anatomical laboratory is the best place to begin teaching the history and traditions of medicine. The student of anatomy engages in one of the oldest sciences. He has behind him a tradition of 2500 years. When he and his teacher bend over his dissection together or sit side by side at the microscope they are following the example of Vesalius and Malpighi. If the student is sensitive to such influences, the burden of his work will be lightened and his effort will be quickened by a sense of pride that he is one of that profession the history of which is an endless record of progress from darkness to light. In the dissecting room and in the laboratories of histology and neurology we inevitably recall the great men and great ideas of the past. When the student first opens the heart of his cadaver and sees the fossa ovalis, it will take only a word from his instructor to remind him of the long story of groping for the truth about the circulation of the blood. A microscopic section of the pancreas will tell him that even a youthful student can make a significant discovery, as did Langerhans. The surface of the brain recalls the name of Sylvius, and a section of the cerebellum speaks of Purkinje, Golgi, and Cajal. Here, in-

deed, the student must perceive not only that he is reliving the history of a great profession but also that with devotion and hard work he too may help to build its future.

Change in Medical Curriculum

We are now in another period of reconsideration and change of the medical curriculum. All sorts of experiments are being proposed or tried. There are various schemes for correlating histology with gross anatomy, or anatomy with physiology; there are proposed rearrangements of the order of subjects in the curriculum, and even a new division of subjects in the curriculum and a new division of subjects between college and medical schools, as proposed by my own alma mater.

Some of these experiments seem to me to be made in the spirit of an Air Force engineer I heard of recently who said "if it works, it must be obsolete." Of course, there must always be experimentation with the curriculum, in the future as in the past. I do not fear that the morphological sciences will disappear from the medical schools. As long as man has a body and that body is made of cells, medical students will need to learn anatomy, and there will be problems enough to keep the anatomical laboratories alert. I do, however, fear any change that might make gross anatomy again only a handmaiden of surgery, or histology merely a preparation for pathology. The problems of bodily structure are continuous from the whole man to the molecule. After we learn just how, for example, a nerve cell or a muscle cell works at the molecular level, we must find out how they react upon each other as whole cells and then we must go on to understand the relation of the whole nervous system and the whole muscular system to each other. Anatomy will still need the scalpel, even as it acquires the electron microscope.

El papel de la Anatomía en la Educación Médica

En este trabajo (un discurso en homenaje al distinguido anatomista americano Charles R. Bardeen), el autor traza una breve Historia de esa Ciencia y de su enseñanza, con especial énfasis en los últimos 100 años y en el papel de la Anatomía en la Educación Médica de los Estados Unidos. Fué durante ese período cuando se llegaron a establecer firmemente las normas y métodos que hoy se siguen universalmente en la enseñanza universitaria de la Anatomía. La lucha por la libertad de disección del cuerpo humano para fines de enseñanza fué un factor esencial en el progreso de esta ciencia. En los Estados Unidos, a partir de 1831 (fecha de promulgación de la ley llamada *Anatomy Act*, de Massachusetts) la disección completa del cuerpo humano por los estudiantes de Medicina se hizo parte integral—sancionada por la ley y la opinión pública—del *curriculum* médico. La demanda de que todos los médicos debían adquirir ese conocimiento íntimo del cuerpo humano que sólo puede ganarse mediante la disección completa de cadáveres, surgió, en parte, debida al avance de la Ciencia en general durante la primera mitad del siglo XIX; mas, por otra, fué reforzada por la creciente audacia de la Cirugía. Los Estados Unidos no se habían quedado atrás en cuanto a este avance (el americano McDowell fué el primero en extirpar un tumor del ovario). Mas, según advierte el autor, hubo la curiosa paradoja de que al tiempo mismo en que las Escuelas de Medicina ganaron finalmente el privilegio de la disección total, el nivel científico de la Anatomía estaba declinando. La Anatomía humana elemental de hecho había cesado casi enteramente de ofrecer un campo fértil para la investigación; los mejores hombres de Ciencia médicos se dedicaban a otras disciplinas, y las cátedras de Anatomía estaban ocupadas más bien por pedagogos que por exploradores científicos, los cuales enseñaban a los estudiantes tan solo los conocimientos anatómicos útiles para la Cirugía. A principios del siglo XX, la sala de disección en las Escuelas de Medicina de los Estados Unidos, era, en las palabras del ana-

tomista Mall, "un pobrísimo ejemplo de laboratorio", y aún en 1910, Flexner encontró en algunas Escuelas sobrevivencias de esas "salas de disección sucias, mal iluminadas, mal olientes, donde muchachos inexpertos descuartizan a golpes un cadáver hasta reducirlo a pedazos". Que la Anatomía llegara a levantarse a su actual nivel científico, fué debido en parte, en los Estados Unidos, a los magníficos esfuerzos de algunos eminentes médicos, tales como Minot, de Harvard, Mall de Johns Hopkins, o Bardeen. Mas estos esfuerzos no hubieran sido suficientes si esa Ciencia no hubiese, desde fines del siglo XIX, extendido su campo notablemente, incluyendo, sobre todo, la Morfología microscópica. Cuando, en las Escuelas norteamericanas, se establecieron por vez primera cursos de Histología, éstos estuvieron a cargo de los Departamentos de Anatomía (no del de Fisiología, como en Inglaterra) y lo mismo sucedió con la enseñanza de la Anatomía microscópica del sistema nervioso. Debido a esos avances, en un período de tres o cuatro décadas, los Departamentos de Anatomía se convirtieron en los Estados Unidos en centros activos de investigación, donde incluso la antigua Anatomía humana elemental, vivificada por el contacto con las ciencias anatómicas más modernas, llegó a adoptar técnicas experimentales y nuevos métodos de estudio (tales como los Rayos X). Los hombres que hoy enseñan Anatomía en las Escuelas de Medicina, así como los que dirigen su investigación científica, desempeñan, según cree el autor, un papel fundamental en la Educación Médica. Bajo su guía, los estudiantes no sólo adquieren conocimientos de importancia vital para la práctica de la Medicina, sino que se despierta, por las actividades de investigación, su espíritu inquisitivo y descubren que la Anatomía, con todas sus ramificaciones, es hoy una disciplina intelectual capaz de colaborar en el progreso general del conocimiento. Además, los anatomistas pueden, mejor que nadie, contribuir a desarrollar en los estudiantes ciertas actitudes mentales indispensables para el ejercicio de la profesión, tales como, por ejemplo, un profundo respecto por el cuerpo humano. Y en la sala de disección aprenden lo que el autor considera "la lección más importante de todas", la de que "cada uno ha de aprender por sí mismo."

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Separatas del artículo completo, en español, podrán obtenerse si son solicitadas por un minimum de 25 lectores.

Staff Perceptions of Patients' Use of a Hospital Outpatient Department*

JERRY SOLON, CECIL G. SHEPS, M.D.,
SIDNEY S. LEE, M.D., AND MAEDA JURKOWITZ†

THE PROBLEM

MEDICAL PROGRESS has magnified the importance of care for the ambulant patient. At the same time, its conquest of so many communicable diseases has enlarged the impact of the chronic diseases. The problem of meeting the needs of ambulatory patients, and particularly of those who are chronically ill, inevitably involves the organized framework of health services available through hospital outpatient departments.

The outpatient department has responded to social and technological changes in a manner characteristic of social institutions. Its clear-cut original function has evolved into a complex web of manifest and latent functions. Whether the resultant role of the outpatient department is rational in terms of meeting current needs is laid open to question. The Beth Israel Hospital, of Boston, sharing a growing concern about the role of OPD's, recently embarked on a study to determine how its outpatients are currently using the hospital's clinics within their total patterns of medical care.

As a preliminary to interviewing patients about their use of the clinics and other sources of medical care, the research group interviewed staff members of the Outpatient Department. The staff's accumulated experience was sought as a means of anticipating patients' use-patterns, so that a sensitive interviewing schedule could be constructed for use with the patients. A wealth of information emerged from these discussions with the staff, and it is presently being used in planning interviews with patients.

Review of the staff interview material has meanwhile led the research investigators to be increasingly impressed with its significance beyond its immediate application to the interviews with patients. Staff perceptions of patients and their use-patterns may be seen as constituting an attitudinal climate which confronts patients who seek clinic services. However much they may be based on mere impressions, or even on misconceptions, the staff's beliefs and attitudes may assume an objective reality for the patient in the reception which he meets. Bigley suggests that "One of the reasons why a patient sometimes wanders from one institution to another is the unfriendly or unprofessional attitude of some member of the staff, who, though otherwise entirely proficient, defeats the

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chief aim of the clinic" *(2)*. The converse of this is fully as much to be suggested. Where staff members are understanding and receptive toward the patient and he senses a climate of social warmth, he is likely to be influenced to seek his medical care there.

The staff's perceptions may thus themselves be a partial determinant of how and where patients seek their medical care. While this hypothesis is not amenable to testing with presently available data, study of the interview material for what it reveals of staff perceptions of patients and their use-patterns offers some useful background and understanding.

The Setting

The Beth Israel Hospital in Boston is a voluntary, medium-sized general hospital with an extensive teaching and research program. It has an outpatient department which, with 33 general and specialty clinics, is typical of the teaching hospital in a large metropolitan area. The OPD serves people who are referred or choose to come to it for medical care and are judged to be medically indigent. These patients, in turn, may serve as teaching material for medical students. While patients are subject to an admission procedure which determines their financial eligibility, there are no fixed income limits, eligibility being based on the individual's medical and economic situation. A standard charge is made for each clinic visit, but the fee is scaled down or cancelled in accordance with the individual's ability to pay.

The physical layout of this outpatient department is fairly typical of such institutions: large, open waiting halls with examining rooms around the periphery. There is, however, considerably less crowding, confusion, and hubbub than in most outpatient departments, since an organized appointment system for patients' visits is in operation. *(4)*.

The clinics are staffed by unpaid physicians, who are in private practice, and by house staff. The former serve in the clinic in exchange for privileges of admitting private patients to the hospital and of otherwise using hospital facilities. Nurses and social workers, and most other ancillary professional and clerical personnel, are employed by the hospital on a salaried basis.

Scope and Method

Information was gathered during the first half of 1957 through interviews with nurses, social workers, and physicians (Table 1). All the nurses who staffed the outpatient clinics are represented and those members of the social service department particularly involved in the outpatient department. Physicians included in the study represent approximately the number who staff the clinics on a typical day. The actual selection of physicians for inclusion was arranged by concentrating on the staff of six of the OPD clinics, encompassing the general clinics in medicine and surgery and four specialty clinics.

Professional staff members of the hospital's Medical Care Studies Unit conducted all interviews. The interviews were structured, but permitted open-end discussion at all points. The resultant data therefore represent the responses of the entire group on uniformly queried points, plus additional volunteered information from varying numbers of the staff.

The interview material was analyzed initially for its substantive information on patients' patterns of clinic use which were perceived by

TABLE I

		Number of Respondents By clinic					
		Medical	Surgical	Diabetic	Gastro-intestinal	Eye	Genito-urinary
Physicians (total)	52	17	6	5	6	10	8
Visiting	45	14	5	5	5	10	6
House staff	7	3	1	—	1	—	2
Nurses	10						
Social workers	10						
TOTAL	72						

the staff. The character of responses among the several staff groups then led, in addition, to formulation of the following hypothesis: Differences among staff members in their perceptions of clinic patients and their use-patterns are associated with the staff member's professional identification and his role in the institutional structure.

Qualifications.—The findings which bear on this hypothesis do not presume to delve deeply, since they are culled from material which was fashioned primarily for the substantive data on use-patterns. The quantitative data presented are subject to wide chance variations, based as they are on a small population. They are employed in their literal form to impart the general understanding and insight which they suggest to the investigators.

While the results, of course, represent the Beth Israel Hospital, and the usual cautions about observing their possibly limited applicability are in order, there is no obvious reason to believe that this hospital is sharply atypical in regard to the subject matter under study.

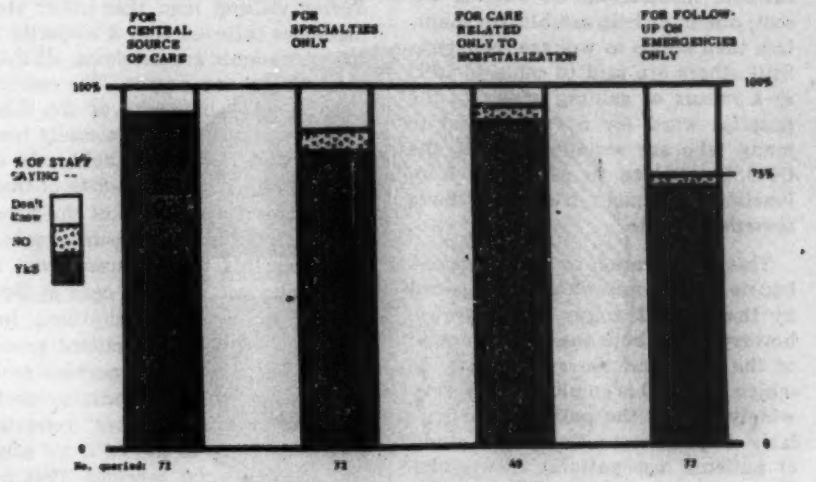
Findings

Variety of use-patterns.—The hospital offers the services of the outpatient clinics to those who cannot afford to purchase medical care privately. How individuals avail themselves of these services is subject to many variations. The discussions with staff members of the outpatient department at Beth Israel Hospital have brought into relief four basic types of use-patterns (Chart 1). Staff observe patients using the hospital's clinics (a) for their central, principal source of medical care, (b) only for conditions calling for specialists' services, (c) for care related only to episodes requiring hospitalization, or (d) for follow-up of emergency conditions only. There is no sharp division of opinion among the staff regarding the existence of these four types of use. Only a few staff members felt that patients do not use the OPD in one or another of these ways. (A larger number did not know to judge one way or the other.)

Chart 1

PATIENTS' BASIC TYPES OF USE OF OPD

Staff's opinions as to whether some patients use OPD:



These four basic use-patterns, together with other less prominent patterns, are manifested and elaborated in an almost endless variety of specific uses, according to the respondents. Patients may use the hospital clinics as their sole source of medical care, except for calling in a private general practitioner for home visits in acute illness. Some may use the hospital and nothing else, employing the emergency ward in acute situations. Some receive their general care privately, but turn to the OPD for specialty care. Some pass through the OPD to check on what their private physician has told them. Conversely, some are regular clinic patients, but may consult a physician privately to verify what they've been told in the clinic. Some use a variety of OPD's in different hospitals, in ways which are either complementary, overlapping, or entirely duplicating. Some shift from private to clinic care when something "major" develops, as when surgery and hospitalization become involved. However, apparently more frequently, others reverse this shift and seek private care when surgery is indicated.

There are some who are not regular clinic patients at all, but have a brief clinic episode as an aftermath of an emergent condition which had precipitated them into the emergency ward. Then there are some whose brief brush with the clinics is in connection with getting some special diagnostic procedures performed, while they are under the private doctor's continuing management. These special-purpose contacts sometimes lengthen into continued management in the OPD. Some private patients are deliberately shunted over to the OPD when a physician exhausts his

tolerance of a troublesome, demanding patient, or when a patient can no longer pay for private care.

Some people are said to use the OPD primarily to stock up on their favorite medications at low, or no, cost; others, to help establish or maintain their status as welfare recipients. Still others are said to come to OPD as a means of gaining access to the hospital ward for a "rest." And to many who are socially isolated, the OPD is a place to get away from loneliness, to meet friends, to have *something* to do.

This enumeration by no means exhausts the variety of uses suggested by the staff. It amply demonstrates, however, that both the basic function of the OPD and the specific way in which the OPD is employed may vary widely among the patients. Particularly important to the larger study of patients' use-patterns now under way is the fact that any one of the four basic use-patterns mentioned above leaves room for additional sources of care to be tapped by the patient. The patient may be using private doctors, or other hospitals, in addition to using Beth Israel Hospital.

Differences in staff perceptions.—While virtually all the staff recognize the existence of the broad use-patterns noted earlier, differences appear among staff groups in their perceptions and attitudes concerning specific types of uses and practices. These differences reveal the diverse perspectives from which staff members view the OPD, and can be related to differential experiences, role prescriptions, and identifications.

When the staff members were asked how many of the outpatients they believe to be getting all their medical care from Beth Israel Hospital, exactly half expressed the belief that a *majority* of the patients use only the one source for their care (Chart 2). However, the views of the visiting physicians on this question appear substantially different from those of the other staff members (Chart 3). Fewer visiting men than other staff members believed that a majority of the outpatients are receiving all their care at the one source. The opinion that merely a *minority* of the clinic patients obtain their care solely from Beth Israel Hospital is held only by visiting physicians (one-fifth of them are of this view). None of the house physicians, nurses, or social workers perceives this type of user (that is, those who get all their care at Beth Israel) to constitute anything less than half of the total patient group. The visiting physician is perhaps more likely, on purely experiential grounds, to have in mind doctors' referring private patients to the OPD for some occasional, special services. This interpretation is supported in part by the responses on the subject of referrals from private physicians to the OPD. The purpose of such referrals was often said to be the performance of diagnostic procedures, with the patient remaining under the continuing management of his private physician. Referral for such diagnostic work was noted by a larger proportion of the visiting physicians (69 per cent) than of the rest of the staff (48 per cent).

The visiting physician is, of course, not rooted in the institution as are the other staff members. His focal role is in his private practice, whereas the others—house physicians, nurses, and social workers—are performing their professional roles as full-time staff within the hospital. The differences of perspective which flow from this are undoubtedly not merely at the level of objective observations, but probably have a large

Chart 2

OBTAINING ALL CARE FROM BETH ISRAEL HOSPITAL

DISTRIBUTION OF STAFF, BY THEIR OPINIONS AS TO PROPORTION OF PATIENTS OBTAINING ALL CARE AT BIH

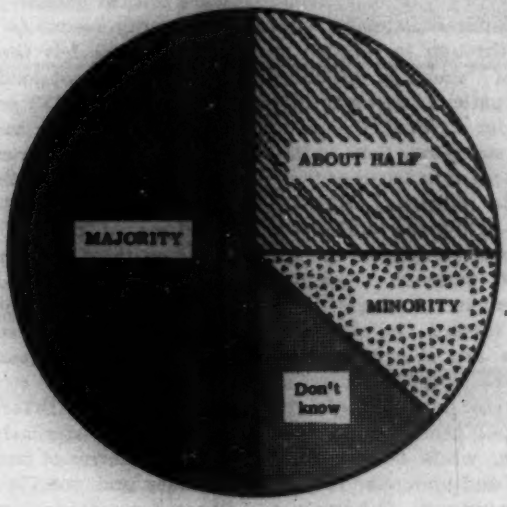
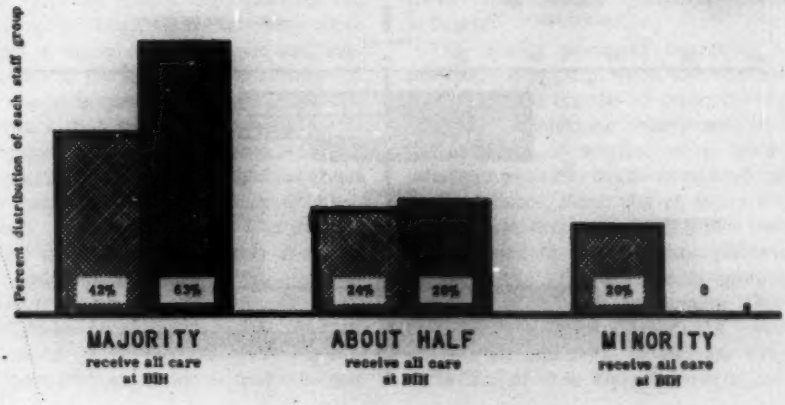


Chart 3

USE OF BETH ISRAEL HOSPITAL FOR ALL CARE:
Differences of Opinion Between -- Visiting Physicians & Other Staff



attitudinal element as well. This attitudinal element is of course shaped by many forces besides identification with the OPD. Professional-group membership certainly enters into this strongly, and perhaps more strongly than the extent of identification with the hospital.

Attitudinal differences among staff groups break through in relation to the practice of "shopping around." This refers to patients' going to different places for care of the same condition. The staff's reactions to this practice were sought in terms of their general attitude (Chart 4). Slightly more than one-half of the total group evidenced general acceptance or understanding of patients' shopping, while 38 per cent had an overall critical attitude toward the practice. Social workers are sharply distinguished from the others, identifying strongly with the patient: only 20 per cent expressed general opposition to the practice, while 80 per cent were accepting and understanding of patients' engaging in "shopping around."

Whatever the general attitude toward patients' shopping, some disadvantageous features of the practice were almost always mentioned by the staff (Chart 5). Some of the staff (24 per cent) placed their criticism on the type of patient who would engage in "shopping around" for medical care. Some of the same or others were critical because of the waste of community resources (22 per cent), because they felt the experience of shopping was not good for the patient psychologically (38 per cent), or because the patient's medical care suffered thereby (78 per cent). Again, the social workers are distinctively oriented: they expressed *no* criticism of the type of patient; and, whereas only one-third of other staff members were troubled by possible psychological effects of the shopping experience on the patient, seven of the ten social workers expressed this type of concern.

The nurses, interestingly, are aligned quite similarly to the physicians, in terms of both their general attitudes and specific criticisms (cf. Chart 4 on general attitude toward shopping). They expressed direct criticism of the shopping type of patient almost as frequently, relatively,

Chart 4

GENERAL ATTITUDE OF STAFF TOWARD "SHOPPING AROUND"

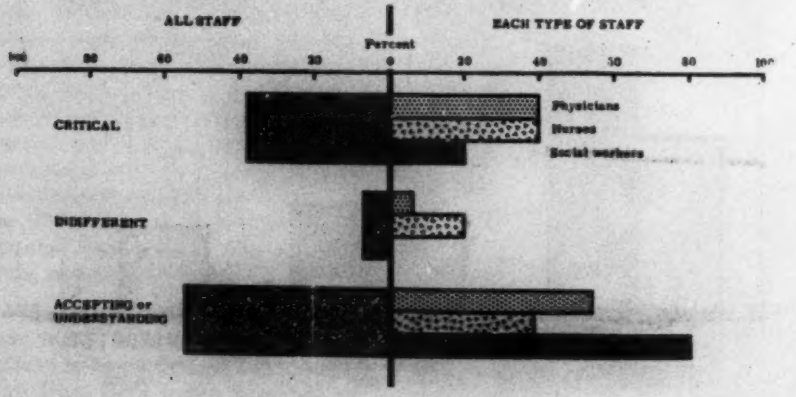
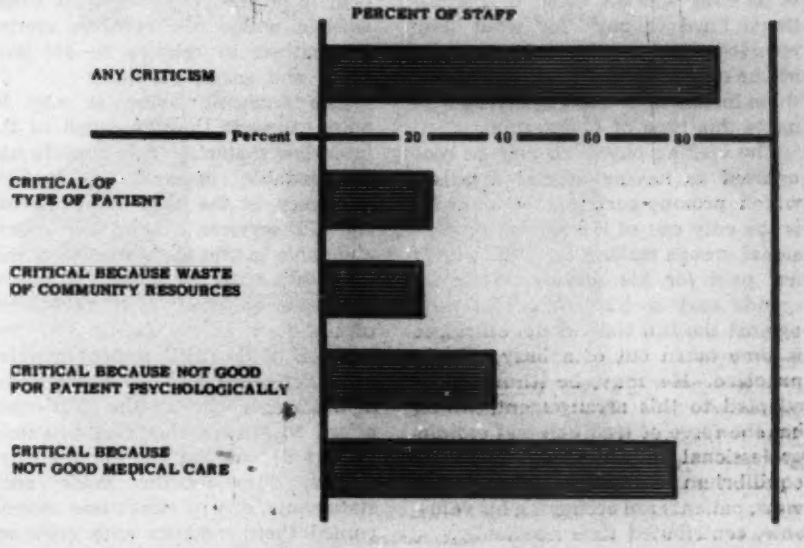


Chart 5

SPECIFIC CRITICISMS OF "SHOPPING AROUND."



as did the physicians. Significantly, observation in other institutions prompted Burling and his associates to comment that "A conflict in attitudes toward outpatients which permeates the entire clinical staff is most obvious in the nurse. On the one hand she feels compassion for the underprivileged, and on the other hand a scorn for the weak and unsuccessful person which is reinforced by the widespread assumption in this country that poverty indicates moral turpitude. There is a persistent undercurrent of aggression against charity patients which is rarely allowed direct release . . ." *(3)*. The present study does not permit nearly as strong a conclusion, since a sympathetic, understanding approach appears to predominate among the group studied. However, the evidence gives support to recognition of some ambivalence.

It is interesting to note that, although the subject of shopping arouses considerable, and sometimes heated comment, about 80 per cent of the staff regard it to be a practice of only a small number of patients. Only one out of every ten among the staff believe that *many* patients "shop around."

The staff's personal reactions to patients' shopping were directly solicited in the course of interviewing. No such reactions were solicited, however, in connection with asking whether patients make excessive use of the clinics. Four out of every five queried on this point responded that, to a greater or lesser extent, patients do visit the clinics more frequently than is medically necessary. One-third of these respondents were moved, in addition, to express some criticism of this alleged overutiliza-

tion. Significantly, all but one of the explicit objectors were physicians.

Even more spontaneously expressed, although in only 11 instances, to be sure, was the belief that if patients "had to pay" for what they received, they would make less use of the clinic. Again, in all but one of these instances, it was physicians who made this type of observation.

The visiting physician may be recognized as having special impulses which prompt such expressions. He is the only one of the several professional groups staffing the OPD who is not paid for his service. While he spends only a fraction of his time against the full time of the others, it is time taken out of a busy private practice. He may be thoroughly adapted to this arrangement, which has the force of tradition and certain professional advantages; but this equilibrium is threatened when, in his view, patients are occupying his valuable, contributed time needlessly.

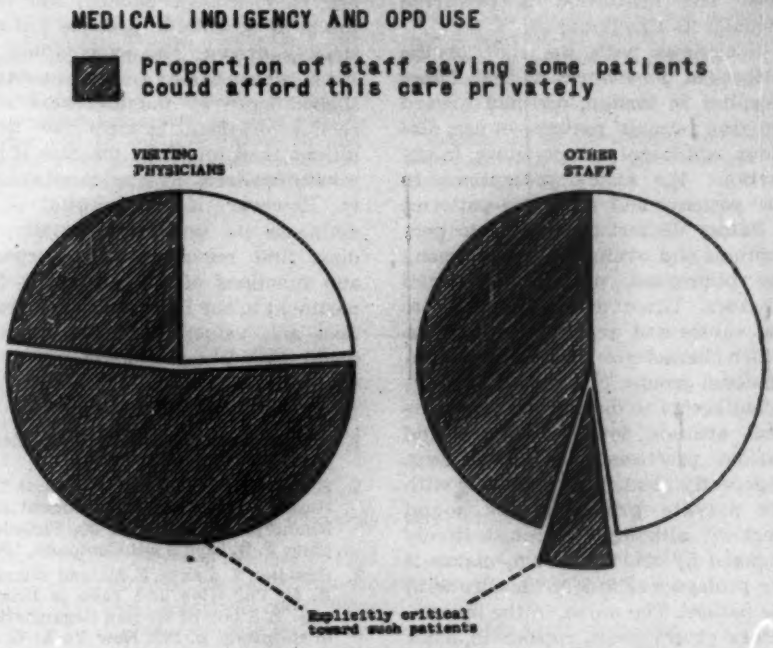
It is the physician, again, who feels abused when he regards the OPD as sometimes "stealing" patients from private practitioners. Patients do at times, and under various sets of circumstances, shift from private care to clinic care. This happens ordinarily when a patient is no longer able to pay for private care, and is referred to, or seeks out, the OPD. However, when other reasons prompt a private patient to become a clinic-user, the label "patient-stealing" is applied. Although the survey did not explicitly seek the information, one-fourth of the respondents mentioned that "stealing" occurs. Most of these, as would be expected, were visiting physicians.

Social workers, on the other hand, more frequently refer to a practice known as "unloading." This term is used to describe a private physician's referral of a patient to the OPD when the patient's funds have been exhausted or his neurotic demands have become too much to handle. These problems would naturally tend to bear in on the attention of the social worker, whose role revolves around the patient in relation to his personal and social problems.

The financial factor, it may be noted, threads through much of the interview material. This is quite understandable, inasmuch as medical indigency is the basis of eligibility for OPD services. It is further understandable in that the operation of this eligibility criterion appears to be under some question: fully two-thirds of the staff, in discussing the composition of the OPD patient population, expressed the belief that some of the people who use the OPD could afford to receive this care privately (Chart 6). Among the visiting physicians, three-fourths made such statements, and in most cases accompanied their remarks with criticism of such patients. Among the rest of the staff, one-half observed this financial discrepancy, but only a small number of these expressed open criticism. Those who did were nurses; social workers offered no criticism.

The perceptions which the staff has of patients in social and intellectual terms must have a profound influence on relationships with the patients. In the course of describing the clinic population, some of the staff noted that the patients are generally of limited education and intelligence. In characteristically patterned form, this was mentioned by one-fifth of the physicians, one-tenth of the nurses, and none of the social workers. This is, of course, not taken to be equivalent to the number who may hold the belief; but, as in other instances, its very expression is perhaps indicative of its prominence in the individual's mind.

Chart 6


MEDICAL INDIGENCY AND OPD USE
Proportion of staff saying some patients could afford this care privately
VISITING PHYSICIANS
OTHER STAFF
Explicitly critical toward such patients

To the physician who in his private practice is accustomed to dealing with patients who are on a higher economic, educational, and social level, the clinic population may well appear in abrupt contrast. The implications for doctor-patient communication are all too evident. That this is recognized as something of a problem within the medical profession seems abundantly clear from this recent item in *Medical Economics*: "Many a private practitioner who devotes time to dispensary or clinic work treats clinic patients with the same courtesy and finesse he gives his private patients. But there are a few notable exceptions to the rule. You may, for instance, have seen a clinic doctor skip all conversational pleasantries. Or disregard some of the niceties in applying dressings, local anesthetics, and such . . . " *(1)*. The situation is not limited, however, to the *doctor's* withholding from an effective interpersonal relationship. Reader and his associates describe the phenomenon of the patient's passivity in the clinic setting *(5)*. Seeing this as two sides of a coin emphasizes the importance of interrelating patients' and staff's perceptions as we seek to understand how the outpatient department is used.

Summary and Conclusions

How people use a hospital outpatient department — for what basic purposes and with what specific patterns—must be in part influenced by the attitudes and behavior of the

staff with whom the patient interacts. The institution is perceived through its functionaries.

Interviews with the staff of the outpatient department at Beth Israel Hospital in Boston, directed toward gauging patients' patterns of use, disclose additional enlightening information: the staff's perceptions of the patients and their use-patterns.

Rather distinct differences in perceptions and attitudes appear among the physicians, nurses, and social workers. These may be related to the values and experience situations which characterize the respective professional groups. In general, the physician seems to display the most critical attitude toward patients and various practices and use-patterns, apparently identifying primarily with his private practice. The social worker, although administratively engaged by the institution, makes it her professional task to identify with the patient. The nurse, in the investigators' observations, appears to articulate her concern for the patient with a strong organizational identification.

These differences among the staff can be functional or dysfunctional, depending on how the elements are blended. They can cause confusion and conflict in the institution's operations or, conceivably, serve a useful function in supplying balancing forces necessary to keep the institution in equilibrium. In many outpatient departments today, optimal blending of the differences is undermined by lack of clarity about the proper purposes and functions of the institution in its current setting.

The functions of the outpatient department may be said to have two dimensions. One is definition of the population eligible for its services. The other is the uses to which the services available in the OPD are put. Along both these dimensions, the functions of the institution studied are only loosely defined, and the limits of acceptable practice are not sharply drawn. The expectations of *staff members* are consequently shaped more by the individual's or each professional group's own definitions than might be the case if the *institution* drew the lines more sharply. However, if the hospital is to delineate its policies rationally, it must first reevaluate the purposes and functions of the outpatient department in the light of current practices and values, both medical and social.

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Una Encuesta entre el personal del Departamento de Pacientes Ambulantes

Con el reciente progreso de los servicios médicos y de Hospital ha ido creciendo rápidamente la importancia del Dept. para Pacientes Ambulantes, así como la complejidad de éste. Participando de la general preocupación por una serie de problemas inherentes a ese desarrollo, el *Beth Israel Hospital* de Boston emprendió recientemente (con ayuda del *Public Health Service* de los E.U.) un extenso estudio sobre los diferentes modos en que se hace uso de los servicios de dicho

Dept. del Hospital. Antes de proceder a una encuesta entre los pacientes mismos, un grupo de investigadores entrevistó al personal de éste, incluyendo médicos, enfermeras y empleados de la Asistencia Social *(social workers)*. Los autores del presente trabajo (miembros directores del mencionado Hospital e investigadores participantes en dicho estudio) ofrecen aquí un detallado resumen de esas entrevistas que produjeron gran cantidad de información útil y significativa, no sólo sobre ciertas pautas seguidas por los pacientes no hospitalizados en el uso que hacen de ese servicio, sino también sobre los puntos de vista y actitudes del personal en cuanto a los diferentes aspectos del problema de los pacientes ambulantes.

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Separatas del artículo completo, en español, podrán obtenerse si son solicitadas por un mínimum de 25 lectores.

New Public Information Director for AAMC

Effective January 1, 1958, Thomas J. Coleman became director of public information for the Association of American Medical Colleges.

Mr. Coleman served for the past three years as assistant to the vice chancellor of the University of Pittsburgh health center, and an additional appointment last year made him director of radio, television and motion pictures for the entire university.

The new director will be responsible for expanding and intensifying the public relations and information program for the Association.

The Functions of a Premedical Advisory Committee*

E. L. Miller, Ph.D.†

It would seem obvious that the duties of premedical advisory committees vary considerably among different institutions. This variation depends upon the character of the institution and the specific responsibilities assigned to the committee by the administration—in fact, there are nearly as many advisory systems as there are colleges. Thus, it would be impossible to outline the duties which all premedical advisory committees should perform. Therefore, in this paper are described, as an example, those duties which are felt can be performed effectively by a committee in a small or medium-sized college, and in particular those performed by this group at the author's institution.

There are a number of factors greatly influencing the work of the premedical advisory committee which should be considered before its specific duties can be considered. One important factor is the type of college in which the committee functions. Stephen F. Austin State College, as an example, is an average-sized institution of approximately 1800 students. It offers a varied program, with considerable emphasis on the liberal arts. Both the college and the premedical advisory committee give considerable attention to the educational programs of young men and women who plan careers in all the various medical professions. In addition to such work with premedical students, there is equal concern for preprofessional students planning to study dentistry, physical therapy, medical technology, veterinary medicine, pharmacy, nursing, and other programs related to the Health Team.

Another important factor is the relation between the committee and the college administration. In this institution the committee seems to function best as a committee of the academic dean's office. Here the membership enjoys a greater degree of permanence than is permitted many presidential committees. This is important, since the many aspects of premedical advising require years of experience and study if accomplishments are to be of a high caliber. Furthermore, such a position enables the committee to work closely with the dean, to keep him informed concerning various aspects of premedical education, and to make this education a part of the general liberal arts program rather than an appendage stressing the specialized nature of premedical education. Actually, our

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committee has enjoyed almost complete freedom to determine the scope of its work and to consider every phase of premedical education which was felt to be its responsibility.

We have found that the premedical committee's duties involve at least five areas of responsibility: *(a)* the committee's relations with the student, *(b)* those with the college or university administration. *(c)* those with the other members of the faculty. *(d)* those with the medical school, and *(e)* those with the high school.

The success of a premedical committee is also determined by the composition of its members. In fact, its entire attitude toward premedical education is greatly influenced by the degree of interest of its members in medical and premedical education and their attitudes toward the problem of counseling students. At this institution a member of the major department counsels junior and senior students. Therefore, members are selected from the departments where most of the premedical students major. In this connection, about 90 per cent of all these premedical students secure a college degree; thus, each will have a major department advisor during his last two college years. About 98 per cent of these students major in the departments of chemistry, biology, physics, and English. However, individuals from other liberal arts departments are often invited to serve on the committee. This concern for, and fair-mindedness toward, the problems of the premedical student and his curriculum are, in the final analysis, the most important qualifications of a premedical advisor. Certainly, they are more important than the particular department in which a teacher's interests lie. In this way the danger of a too narrow, specialized educational program for the premedical student is more easily avoided.

Areas of Responsibility

Responsibility to the premedical student.—One of the committee's most important functions is to assist the administration in formulating the premedical curriculum for the college, after careful consideration of the student's total educational program. Thus, our committee examines the entrance requirements of many medical schools, various liberal arts programs, graduation requirements, and major and minor requisites. A carefully selected group of recommended electives is finally added which will broaden a student's point of view and develop him into a well adjusted and effective member of society. The major objective is that he achieve a liberal education which fits him for a successful adult life and, in addition, prepares him for subsequent vocational training. In this connection, the greatest concern of the premedical committee is the number of science courses desired by the medical schools beyond the stated minimums. Too often, instructors in the medical schools and practicing physicians, in their associations with premedical students, are in disagreement with the announced admission policies of the medical schools. This makes more difficult the efforts of the premedical advisory committee.

While the development of maturity of judgment in students is desired, it is felt that maturity should not be attained by the student's being permitted to make mistakes which may ruin his chances for medical studies. The argument that the student is already mature enough not to need guidance in his choice of electives seems to be wishful thinking. The committee also works with faculty ad-

visors of freshmen and sophomores, so that they can better understand our recommended program for the first two years of college.

The committee is available for conferences with students regarding their choice of courses, and an attempt is made not to influence them concerning their choice of major and minor, as long as the choice is in a liberal arts department. While we try to dispel the common notion that extreme concentration in science is an essential for the premedical student, it is also recognized that ability in science, and even a love for it, seems to be closely related to a student's liking for medicine and choice of a medical career. A premedical advisory committee should cooperate with the major department, to help make the student's work in science departments most worth while for him in terms of a broad and liberal education. The committee encourages participation of premedical students in departmental clubs and other campus activities with other students, since we do not want them to feel that they are a group apart from other students. It is believed that urging premedical students to form premedical clubs in preference to joining a departmental major club is not conducive to encouraging the broadening experience in college which they need. It is emphasized that the term "premedical" applies to a particular period of a student's educational experience, rather than to a narrow, specialized type of training for the future study of medicine. The committee frequently discusses with these students the nature and value of the various courses they are urged to select.

Our committee believes that maturity of judgment and the development of self discipline is best attained by getting a full, four-year college experience, and that the academic standards for graduation constitute a worth while experience for all premedical students. Therefore, unless it occasionally seems unreasonable to do so, the completion of a full, four-year college program is encouraged.

An important duty of the premedical advisory committee is to advise students as to time of application and method of procedure in applying to medical school for entrance. Supervision of the Medical School Admission Test is rotated among committee members so that each one learns the procedure and nature of the test. The insertion of regular notices in the school paper keeps students informed. Various methods are employed by committees for recommending students to medical schools. There are some colleges with premedical students even in their third and fourth years whom no faculty member can call by name. For certain medical and dental schools, our committee discusses each student and decides upon the approximate rating which he should receive, together with special points which should be mentioned. However, it is felt that if each member of the committee and other professors who should recommend the candidate recommend him separately, the medical school officials have a much better opportunity to secure the most complete picture of a candidate's various abilities and personal traits. We are aware of the fact that medical schools value recommendations according to their proved integrity, and obviously the committee or advisor who recommends all or even several of the students as "the most promising student in years" soon loses the confidence of the medical schools.

Members of a premedical advisory committee should find opportunities to visit with students frequently, if a

good recommendation is to be made. We have learned that certain factors in a student's personal life—his general attitude toward people, his maturity of judgment, his code of ethics, his feeling toward medicine as a profession—these and other qualities should be examined, when possible, by fostering a more personal relationship with him. Probably in this connection the premedical committee in a smaller institution can operate more effectively than one in a large university. If the medical schools are to give more emphasis to character, rather than to let scholarship outweigh character, as they are sometimes accused of doing, then this function of the premedical committee, i.e., that of giving more attention to students' personality traits, becomes one of its most important functions.

Every member of a premedical committee knows that many students come to college in love with the idea of becoming a doctor, rather than with a true understanding of either the nature of premedical and medical school work, or with enough self-discipline to apply themselves to their academic program. It then becomes the rather painful duty of the committee to convince some during their first two years of college that they should transfer to another program. The more a student respects us and has confidence in us, the easier this becomes. Probably between 40 per cent and 50 per cent of our premedical students transfer to other programs during the first two years of college.

In recent years, a relatively new function of premedical advisory committees has appeared. This is the sponsorship of an annual visit to the campus of a group from a medical center consisting of individuals representing the various medical programs there. In this connection our committee calls an assembly of all preprofessional students planning careers in the various medical fields, so that they may get first-hand information concerning qualifications, procedures for entrance, and the nature of the various professional programs. This is one of our most popular activities and involves about four per cent of the total student body. It also furnishes an excellent opportunity to sponsor closer relations and understanding between the medical schools and the college administrators.

The newest project of our committee has been the institution of an orientation program for preprofessional students interested in medical careers. It is our belief that a college such as ours should provide an opportunity for these students to understand the professional programs which they hope to enter and to appreciate the nature of the careers toward which they are aiming. Identification of students with inadequate motivation is a real service to medical schools and to society. To do this, one supervised trip to a medical center is planned for each of the last two years of college. It is believed that a more intimate understanding of the future program in the professional school and hospital is necessary to stimulate the students' best performance while with us. While some will become more convinced that they desire a career in medicine, others may be made to realize that they have only been intrigued by an idea and that they should choose another program while it is still possible to make the change easily. This may help in reducing the dropouts in medical schools.

Responsibility to the college administration—College administrators can hardly be expected to spend the amount of time needed to understand

all the problems associated with the premedical program or to be as concerned with it as with many of the more pressing matters of administration. Therefore, one of the committee's important duties is to advise administrators on medical school requirements for entrance, the nature of the recommended premedical program, and the need for certain courses.

Every medical school feels the need for bringing about a closer working relationship between the medical school and college officials. The premedical committee, at its best, is a liaison agency which constantly works to maintain this understanding between the medical school and college officials. During the visit of medical school officials to our campus as mentioned previously, we arrange a meeting between them and our administrators.

At the request of our administration we serve as an advisory group to our dean and our president on many aspects of the premedical program, and at their request have made several studies on matters of vital concern to the college. We also aid in the preparation of catalogue material relating to premedical work and in the preparation of certain preprofessional bulletins.

Responsibility to the college faculty —Unfortunately, erroneous concepts of the meaning of a premedical education are not confined to students. The belief that the best program for a premedical student is a steady "dose" of science is a common one among college teachers who have no contacts with medical schools and their entrance requirements. Also, the belief that a student needs support from those with "pull" to get him in medical school, and that he needs a relative who is a practicing physician if he hopes to study medicine, are only a few of the misstatements we hear from faculty members. Unfortunately, students hear them too. The premedical advisory committee has a definite function of helping to give college faculty members correct information concerning acceptance procedures, and for this reason it is very important to have medical schools explain to our committees the degree of emphasis they place on the various qualifications of a premedical student.

The premedical committee can do much to emphasize to other faculty members that premedical work is liberal education and that it is preparation for citizenship as well as the securing of a foundation for future professional work. They can emphasize this in their daily contacts with other faculty members. Medical schools need to be more articulate on this subject than they have been at times in the past. We discourage the offering of courses especially designed by faculty members for premedical students, since they tend to limit the student's experience and isolate him from the associations which he needs during his formative college years. We particularly discourage the offering of biology courses which attempt to duplicate work which is offered in medical school, but we suggest stress on those fundamental biological concepts which provide the basic foundation for all professional work.

We also work with the faculty advisors of freshmen and sophomores, and we try to give an understanding of the reasons why certain courses are urged for premedical students.

Responsibility to the medical school —Liaison between the college and the medical school is needed for two reasons: First, the best possible selection of those who are to study medicine should be made; and, second, the education process at both levels should be as effective as possible. If the col-

leges are to give maximum aid in achieving these objectives, they must have information and understanding of the problems, educational philosophies, and practices of the medical schools. Liaison is not really between institutions, but between people, and the problem is to get the people to know and understand one another. We know that the advisor who visits a medical school is in a better position to serve both medical school and college. To better understand the demands upon medical school students, members of our committee visit medical schools each year. Lack of funds and time prevent most members of advisory committees from doing much of this, for it must be borne in mind that most duties of premedical advisory committee members are duties over and above a full load of teaching, or of teaching and research.

Another duty of the premedical committee is that of checking on the performance of our students in medical school. What we need is not their grades, but rather their exact standing in their classes. Only by obtaining such information and by comparing it with our recommendation can we hope to improve our ability to recommend students. This is an important aspect of our relations with medical schools and one that depends a great deal upon their willingness to cooperate. This probably could be done best by the medical schools' sending regular periodic reports, and it would be one of the most important ways in which they could aid us.

Responsibility to the high school student—The average high school counselor has little direct information on the nature of the college premedical program. Consequently, the student who contemplates a college premedical program often has a very distorted picture of its nature and objectives. Their most common error is the belief that their record of performance in high school biology is all the assurance they need of success in medical school, and that premedical work is simply a necessary interlude. The premedical committee should take advantage, therefore, of all opportunities to talk with high school students who plan a premedical program. In this connection, our committee takes an active part in a career day for high school students, and an increasing number of students consult us when on our campus. We have helped prepare one bulletin on the subject of premedical work for distribution to high school counselors.

Let us keep in mind that the premedical advisory committee should be a group of teachers who are not only sincerely interested in the student as an individual, but deeply concerned with the implications of liberal arts and science education, and with medical education, upon society. The wise choice of the members of the advisory committee and the encouragement of them in their work may well be the key to the discovery and development of the kind of student we should all like to see enter the medical schools and the medical profession. It may even be within the adviser's power to help the student become not only a highly skilled physician but also a liberally educated man, aware of his full responsibility to society.

Funciones de los consejeros de los futuros estudiantes de Medicina

Aunque el funcionamiento de los Comités de consejeros para estudiantes que van a dedicarse a la Medicina varía considerablemente según el tamaño y carácter de las diferentes Universidades, y depende en gran medida de las administraciones de éstas, el autor de este trabajo, Profesor del *Stephen F. Austin State College* (Texas), tomando

como modelo dicha institución (de aproximadamente 1800 estudiantes), se propone examinar las funciones y responsabilidades comunes a todos órganos de esa índole, y analizar los varios factores que influyen en su funcionamiento. Teniendo en cuenta algunos de estos factores (tales como el tamaño y tipo de Universidad y las relaciones que existen entre el Comité y la Administración) el autor destaca y examina detalladamente cinco áreas principales de responsabilidad de un tal Comité, que son las siguientes: 1) relaciones del Comité con los estudiantes; 2) relaciones con la Administración; 3) relaciones con otros miembros de la Facultad; 4) relaciones con las Escuela de Medicina, y, 5) relaciones con las Escuelas Secundarias. El éxito de los trabajos del Comité depende, en gran medida, de la composición de los miembros y del grado de interés que éstos tomen en los problemas de la educación premédica y médica. En el caso de *Austin State College*, los miembros del Comité proceden de los Departamentos que tienen el más grande número de estudiantes que piensan dedicarse a la Medicina (Química, Biología, Física e Inglés). El autor cree que el buen funcionamiento de esos Comités es un factor esencial en la Educación Médica porque, según dice en sus conclusiones "su trabajo bien podría darnos la clave para el descubrimiento y desarrollo de ese tipo de estudiantes que todos queremos ver entrar a la Escuela de Medicina y la profesión médica. Muy posiblemente el consejero tiene el poder no sólo de ayudar a un estudiante a convertirse en un médico de gran habilidad, sino también en un hombre de educación liberal, consciente de sus responsabilidades para con la sociedad".

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Separatas del artículo, completo, en español, podrán obtenerse si son solicitadas por un mínimum de 25 lectores.

The Home Visit as a Teaching Exercise: A Clinical Concept

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Visits to the homes of patients which are carried out by medical students have found a place in the medical curriculum of a growing number of medical schools, although the value of this experience continues to be the subject of controversy. Some of the objections to the home visit plan are that such experiences are not really profitable as a clinical experience, that they may take much time from an already crowded schedule, and that they serve as an area in which an unguided student can do harm both to himself and the community. We believe that these objections are significant but not insurmountable and that the home visit can be an enlightening clinical experience, well worth the time necessary to be put into it, both on the part of the student and the teacher.

Such visits may be carried out in a number of ways (1, 3, 4, 7, 8) and may represent a sociologic experience in the form of a visit to an assigned family, sometimes previously unknown to the student, who goes alone or in company with a social worker; or it may represent a clinical experience as well. It has been our impression that seldom in the course of a home visit does a medical student enter and leave the household without having at least one question directed to him which concerns therapy, and we believe it unwise to place the student in this position where, as a "representative of a medical school," he may feel that he (by himself) should give an answer, even though he may not be at all sure of what to say. For this and other reasons, we have followed the plan of having the student, *accompanied by a physician*, usually a member of the preventive medicine department, so that this visit may be a clinical experience in its broadest sense, even though other features will naturally enter into it. This approach to extra-hospital instruction has been reached gradually and only after several methods have been tried, all aimed at teaching "environmental medicine," at the Yale University School of Medicine. The present system initiated in 1955 is proving satisfactory. The course has been called "External (Environmental) Medicine."

Clinical Epidemiology

This type of teaching, of which the home visit is the focal point, is essentially an exercise in what has been called "Clinical Epidemiology" (5), a term which could actually have been used as the title of this course. The type of instruction and the philosophy back of it are aimed at directing the student's attention not only to the individual patient but to the total clinical situation. It also reflects the concept that not only the

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practice, but also the principles of medicine have shifted greatly since Osler's day. As one example, the epidemiologic approach to preventive and indeed to clinical medicine is no longer something which lies outside of the physician's task, but at the heart of it.

Another reason for attention to this kind of instruction is that, in recent years, the locale of medical practice has shifted into "medical centers." Here, full-time physicians and teachers are quite understandably preoccupied with intramural activities, to such an extent that they become less able to spend the time to practice what has been called "shoe leather epidemiology," because they already have more than they can do in the hospital clinics and in their laboratories. It has been our feeling, however, that it is undesirable for the student to get the idea that all "good" medical work and all instruction should be concentrated within these institutions, but rather that the university medical center should be regarded as a focal point from which both centripetal and centrifugal forces can be felt within the community which it serves. Actually, our concept of clinical epidemiology and environmental medicine is largely dependent upon clinical and laboratory technics used in the medical center.

This approach essentially calls for a more complete medical, family, and occupational history with a survey of what is going on in the patient's environment and particularly within his family. It calls for a measurement by physicians (and students) of factors which concern not only the individual case or patient, but also the clinical circumstances under which the patient became ill or may become ill again. In essence, this means an appreciation of general factors which are of etiologic or ecologic importance in any disease and which in epidemiologic parlance are: the seed, the soil, and the climate. It also offers an opportunity for the student to become better acquainted with his patient.

An appreciation of some of these ecologic factors can certainly be acquired by the study of sick patients in a hospital bed or in the doctor's office, but this is not always the best way for *students* to appraise the situation in which patients find themselves, or the setting from which their illnesses arose, which the student may or may not have an opportunity to see and evaluate for himself. Many a student, it would seem, feels quite confident that he has derived an accurate and detailed history from his dispensary patient, only to find when he visits the home how very inadequate it has been. These factors to which we refer, therefore, demand clinical judgment —i.e., judgment to consider the patient's (host) resistance: his ability to cope with or succumb to injurious agents, whether they be bacilli, viruses, chemicals, allergens, traumatic injuries, severe emotional conflicts, or added expenses to the family budget. And clinical judgment is also required to estimate "the epidemiologic climate." This climate, whether it be sociologic or geographic, may be limited to a single house, but it would seem to us to be as important to the clinician as the pH is to the biochemist. Experienced physicians may be able to visualize the home, the patient's family and their problems in a fairly satisfactory manner, but medical students (and interns) whose clinical experience may have been entirely limited to their hospital training often have a very vague idea of what goes on in the outside world, clinically speaking.

Still another purpose of this course is to give the student some inkling of the functional hiatus which may exist between highly specialized medical departments and which may easily develop in a medical center setting. It is even an attempt to point up the inadequacies of "out-patient medicine" or even "medical center medicine". Particularly, this may concern relationships of various clinics which a patient may visit, and from which he may be receiving conflicting kinds of advice. Gaps and differences may also develop in the effective planning of various social agencies, since no one may have assumed full clinical responsibility for the patient; no one has assumed the responsibility of a family doctor or has considered the situations back of his illness.

Follow-up Visit

The plan calls, therefore, for a "follow-up visit" to the home of the patient by the medical student, *accompanied by a physician*. The patient in question is always selected as one of *the student's own patients*, who has already been recently assigned to him in the Out-patient Clinic and has already been worked up by him. The student is thus asked to go on this follow-up visit not in the guise of a lay advisor or an amateur psychiatrist or a social worker, but as a diagnostician and therapeutist in the sense of a "family doctor," which Francis has described (2). As in other branches of medicine, diagnosis should precede therapy, and the philosophy of the course is thus based on the fact that, before any final course of action or therapy is recommended, the answers to the following questions are important: From what sort of a place did the patient come? What sort of a life does he or she lead? What is the relationship of the environment to the patient's illness? What illnesses exist in other members of the family; or, perhaps in other members of the local community? What is the impact of the patient's illness on his family, and indeed upon the community? How can these things be measured by accurate questioning or by collecting material for further study? How can they be charted and brought to the attention of others? How can they be integrated? Is there anything to be done about them now? Could anything of value have been done in the past that was not done, and if so, why? What is the prognosis as one envisages the patient continuing to live as he has in the past?

It should also be emphasized that this is not a continuing program of home care, nor has it been tied in with home care programs, although the possibility of doing so in the future is conceivable.

Plan of operation—This course in *"External (Environmental) Medicine"* is presented to members of the fourth year class throughout the academic year. During each term, the participating students are those who are assigned to the medical and pediatric out-patient clinics.

Selection of cases for discussion.—Each day, the total patient roster of the Medical and Pediatric Out-Patient Clinics is reviewed. Patients with disease entities suitable for environmental study and discussion are selected. As such, before the home visit is carried out, the student has not only been responsible for a complete history and physical examination, but he has probably participated in some therapeutic recommendations.

During the past year, representative diseases for this type of review have included: bronchiectasis, tuberculosis, diabetes mellitus, mental re-

tardation, cat scratch disease, rheumatic fever, rheumatic heart disease, rheumatoid arthritis, duodenal ulcer, allergic rhinitis, ascariasis, bronchial asthma, pneumococcal pneumonia, pernicious anemia, psychoneurosis, myocardial infarction, myxedema, thromboangiitis obliterans, epilepsy, rubella, and nephritis.

The "home visit"—Following the selection of each patient for discussion, the fourth year medical student, who has previously been assigned to this patient, is notified and asked to confer with a designated faculty member, whose role becomes that of "physician preceptor." It then becomes the student's responsibility (sometimes with the aid of his preceptor) to arrange an appointment for a "home visit" to his patient; and in so doing, he explains to the patient that this visit is essentially that of a follow-up visit to see how he is getting on and whether he can help him further.

The "home visit" is then carried out as scheduled by the fourth year student and his physician-advisor. In the home follow-up, physical examinations may be performed, if indicated. Blood specimens and other material for subsequent examination in the laboratory may also be obtained and even skin tests performed occasionally. Not infrequently the diagnosis is changed as a result of this visit, and the therapy as well. On the way back from the patient's home and afterwards, the whole situation, the patient, his illness, his family, and his environment are again discussed before the case is ready to be presented at a case conference.

Occasionally, deviations are made from this pattern, and in certain instances, particularly infectious disease, private patients of local physicians in the community have been utilized for these home visits, in order that the student may have the opportunity to observe examples of those illnesses which are no longer managed in a hospital, particularly the exanthems (and enanthems) of a number of common diseases such as measles, mumps, scarlet fever, and chicken pox. This provides the administrative structure whereby local physicians can actively assist in the teaching of medical students by employing the technics of home visits to individual cases.

Teaching Staff

The teaching staff for this course for a student body of 80 has consisted, during the past two years, of five full-time and one part-time physician. Visits are made at the rate of two or three per week. It has been found advisable to limit the home visit to one student per visit, with the exception of those visits in which an exanthem is being demonstrated, when as many as three can go along and the family has been instructed in advance that this is a clinical demonstration for medical students.

In certain cases, the *occupational* environment of an individual may be a key factor from the standpoint of an adequate history of factors which influence the nature and course of the patient's illness. In such instances, a visit to the "work shop" is arranged in order to give the student specific occupational information.

In essence, then, this is what might be termed the *apprentice* form of teaching, comparable to that between preceptor and student, in which a fair amount of clinical instruction is actually carried out in driving to and from the home-site.

Formal case discussion—At subsequent weekly meetings, attended by students, members of the faculty, and special consultants, details of each of the clinical cases and home

A case of lobar pneumonia in an adult male, 35 years of age, and its relation to preceding events in the life of the patient and the life of his family. The six heavy horizontal lines indicate the six members who compose the family group. Their names and ages appear at the left side of the diagram and specific medical and environmental events have been recorded chronologically. The major points are, that one can see at a glance the size of the family group, the general character of the health of its members, the relationship which certain events bear to illness and which multiple familial illnesses bear to one another.

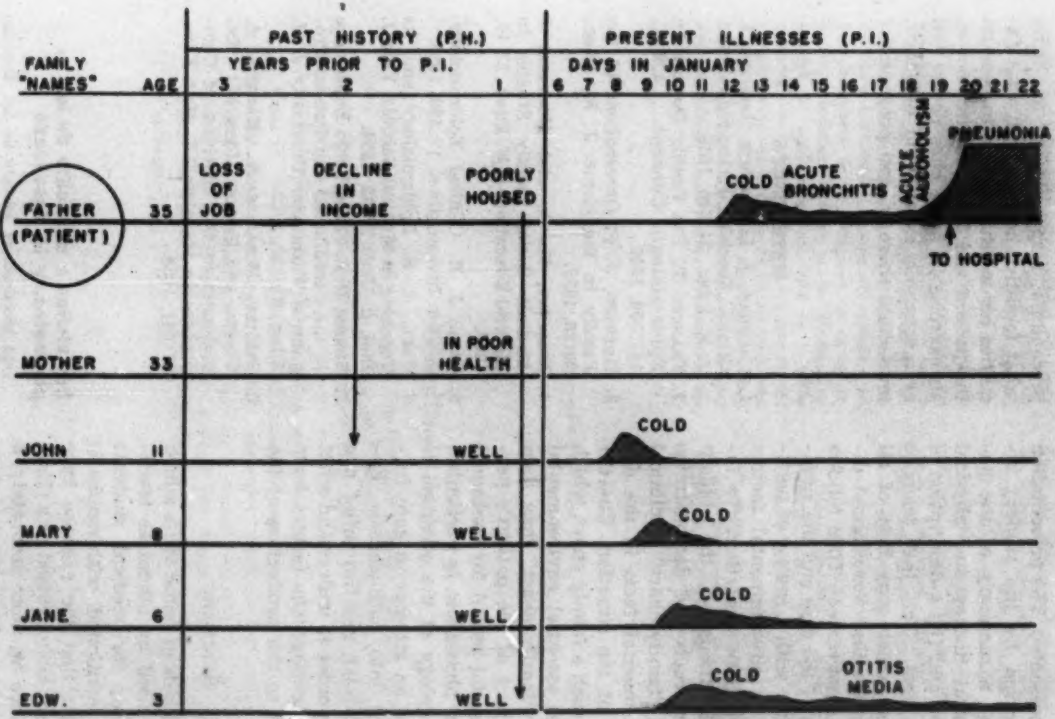

Chart 1

visits are presented. The presentation which is given by the student includes: (a) a summary of the patient's clinical history and physical examination and (b) a description of the "home visit." This then leads to a discussion which may first of all reveal the fact that the original diagnosis was not correct. Then follows a discusion of the case and the *situation*, together with a review of pertinent host or environmental factors which have been unearthed. To facilitate this discussion, the student usually constructs and demonstrates a so-called "family chart" of clinical and environmental facts in the development of the situation. Chart 1 illustrates such a family chart, which incorporates essential environmental data. This "family chart" may then become a part of the patient's permanent hospital record for continued use by other physicians. In particular, the epidemiology of the situation is reviewed in an attempt to gain further insight into pathogenesis. Environment-host relationships are analyzed in order to understand what external or endogenous factors have contributed to the production of the disease.

Summary

Various kinds of home visits which have been used by others as teaching exercises for medical students have been mentioned, with emphasis on the point that the exercise here described has been devised as a clinical experience or, more accurately, a clinical-epidemiologic experience. This procedure has been built into a course which is an adjunct to the teaching which the student usually receives in an Outpatient Department.

The home visit here proposed is conducted by a physician who goes out from the medical center in company with the student. It is thus the preceptor's responsibility to bring what facilities he has, and what facilities his institution has, to bear on the patient and his problems, not as an exercise in home care *per se* but as a teaching exercise in diagnosis, immediate therapy, and prognosis.

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Las visitas a domicilio de los pacientes, y la Enseñanza

Está creciendo el número de las Escuelas de Medicina que incluyen en su *curriculum* visitas a domicilio de los pacientes, aunque el valor de enseñanza de éstas sigue siendo objeto de controversia. Se ha alegado que ese ejercicio ocupa demasiado tiempo del horario de los estudiantes; que no constituye experiencia clínica verdadera, y que un estudiante inexperto, sin supervisión, podría hacer más daño que bien. El objeto del presente trabajo es refutar éstos y similares argumentos y demostrar que las visitas a domicilio, si son

conducidas adecuadamente, pueden constituir experiencias valiosas tanto para los estudiantes como para los instructores. Los autores (ambos pertenecientes a la Sección de Medicina Preventiva de la Escuela de Medicina de Yale), después de discutir brevemente los diferentes modos de hacer visitas que suelen practicarse en otras Escuelas, describen detalladamente la forma en que se llevan a cabo en dicha Universidad, donde ese ejercicio ha sido integrado, desde 1955, con un curso llamado "Medicina Externa o de Medio Ambiente", el cual, a su vez, está en relación estrecha con la instrucción que los estudiantes suelen recibir en el Dept. de Pacientes Externos de Hospital. Según ese sistema, las visitas son conducidas por un estudiante *acompañado por un médico* (usualmente un miembro del Dept. de Medicina Preventiva) y se planean en forma tal que el estudiante ha de dirigir su atención no sólo hacia el paciente individual sino hacia la *situación clínica total*, es decir, hacia lo que ha sido llamado "Epidemiología clínica". Es la responsabilidad del médico preceptor, presente en esas visitas, utilizar sus conocimientos, y cuantas facilidades tenga la institución a que pertenece, en beneficio del paciente y de sus problemas, no tan solo como ejercicio para el estudiante en el cuidado médico a domicilio, sino como enseñanza completa en diagnosis, terapia inmediata y pronóstico.

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Separatas del artículo completo, en español, podrán obtenerse si son solicitadas por un mínimum de 25 lectores.

National Health Council

Basil O'Connor, president of the National Health Council, announced the election of the U. S. Office of Education to advisory membership and the National Nephrosis Foundation to active membership in the Council.

The two newest members bring to 63 the total number of organizations in the National Health Council. Its membership consists of voluntary and governmental health agencies, professional associations and civic and business firms having a major interest in health. The Council serves as a conference ground for these groups to plan together for better health for Americans. Its headquarters are at 1790 Broadway, New York City.

The Purpose of Medical Education*

G. W. Pickering, M.D., F.R.C.P.**

It has been remarked by an intelligent observer from across the seas that no country has produced so many excellent analyses of the present defects of medical education as has Britain, and no country has done less to implement them. It seems to me that this arises partly from our national conservatism, but chiefly because we have devoted too little thought to the true purpose of medical education, and thus omitted to select a yardstick against which to measure the virtues and defects of our system. My object here is to outline what I conceive to be the purpose of medical education and to discuss in general terms why this purpose has not been achieved. I can best introduce my subject by quoting from the Report of the Royal Commission on the University of London (1913) which, under the chairmanship of Lord Haldane, produced one of the most penetrating documents in the history of medical education.

"We must, in the case of the Faculty of Medicine, as in the case of other Faculties, consider what steps it is necessary to take in order to place the best teaching upon a real university basis. . . . We cannot, however, deal with the Faculty of Medicine on exactly the same lines we have followed in the case of other Faculties, such as those of Arts and Science. In those Faculties, the provision for teaching of the highest university standard may be deficient, but the standard itself is not questioned. In the case of the Faculty of Medicine, we have no test to apply. Except as regards pathology and hygiene the University has not attempted to determine which of the teachers of the subjects classed as Advanced Medical Studies are entitled to the status of Professors or Readers . . . . What is more significant, it is denied that they ought to do so. . . . The question is therefore forced upon us, whether the standard we have accepted and required for the teachers in other Faculties ought to be abandoned in the case of the teachers of the most important professional subjects in this Faculty. . . ."

That was 43 years ago. The University of London has changed much since then, and, in fact, led the country in the development of clinical studies along true university lines. Nevertheless, as I hope to show, the chief issue facing us to-day is whether the objects of medical education are the same or different from those of other faculties of the university. Should medicine, in fact, be taught within the university or in a technical college?

Proper Training

The proposition that the purpose of medical education is to turn out properly trained doctors would prob-

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ably receive general assent. There is, however, dissent about what constitutes a proper training and yet more about what kind of doctor should be trained. Are we trying to train physicians, surgeons, psychiatrists, and medical scientists in all their special branches as well as general practitioners? Clearly, to do all these things in the scope of one single curriculum is impossible. A man would either spend the major part of his lifetime as a student, and render service to the community only in his dotage, or else be improperly trained. The recognition that this is so is one of the major achievements in the post-war period. It is now agreed that the training of a doctor does not stop at his final professional examination, that postgraduate experience is necessary for all doctors who are to be licensed to practice medicine; and that experience and training should differ according to the career ultimately to be followed. The organization of postgraduate education, and particularly the institution of a compulsory year of hospital practice under supervision, has in fact liberated the undergraduate curriculum to serve its proper purpose. It remains to agree what that proper purpose is.

Postgraduate education is perhaps in its infancy. Since, however, it is chiefly concerned with the acquisition of detailed factual knowledge and of special technics, it provides a fairly well defined problem about which there is fairly general agreement. While acknowledging the great importance of postgraduate education, I would like to say no more about it and devote the rest of my remarks to the medical curriculum proper, the course leading to the degree of Bachelor of Medicine.

While few would now maintain that the function of the undergraduate curriculum is to train specialists, there are many teachers and administrators who hold that its purpose is to train general practitioners. This, however, seems an inadequate definition. Thus there is an increasing body of opinion which believes that at least part of the special training necessary for a general practitioner should be postgraduate. Again, much of what is included in the present curriculum is quite unnecessary for general practice, and it would be very difficult to justify the vast public expenditure on preclinical departments merely to train general practitioners. In fact, if this were the sole function of medical education, some might doubt whether it was desirable to include medicine within the faculties of universities. It would be cheaper and more efficient to carry out the small amount of preclinical training necessary at technical colleges and to revert to the system of apprenticeships. The fallacy of so defining the purpose of medical education would be clearly demonstrated were we to fashion our educational system on such a definition. Not only would those who intend to specialize have an inadequate background, but the advance of medical science would come to a standstill.

Basic and Special Requirements

The conflict between the needs of future general practitioners on the one hand, and of specialists and research workers on the other, led Lewis to suggest that there should be two medical curricula, a shorter and a longer designed for the two groups. This suggestion has never found much favour and probably never will. As all experienced teachers and examiners know, much may happen to a man during the five years or so of the medical curriculum. A boy may enter

loaded with examination honours, and at the end be in the bottom part of the class, qualifying with the greatest difficulty. I also know of one man who had difficulty in matriculating but whose scientific work was so distinguished that he became a Fellow of the Royal Society at 35. It would thus be a thankless task to try to select men at the outset for those two types of education, and I for one would not care to do so. However, an even greater objection would be the creation of two separate grades of doctor with detrimental effects on the unity and the morale of the profession. And here let me venture an aside and remark that in these days of the Welfare State matters affecting morale are of much greater importance than is generally realized. There is an increasing tendency for men to be concerned more with what they can get out of life than what they put into it.

Function of Curriculum

The idea that the medical curriculum should be primarily designed for any particular kind of doctor proves thus unacceptable. It would seem rather that it should be regarded as a basic foundation on which may be built the special requirements of the various specialties. We might say that the function of the medical curriculum is to train the basic doctor, provided that we recognize that the concept of the basic doctor is a mere abstraction.

It would seem, then, that the problem of defining the purpose of medical education resolves itself into two questions: What are the basic requirements that all doctors need, and what are the special requirements severally needed by general practitioners, scientists, and specialists?

Function of University Education

Medical education has grown up within the framework of the universities. No one would dispute that this is the proper place for medicine. The study of man in both health and disease is part of biological science. Scientific knowledge is indivisible, and advance on one front makes possible advances on others. Were medicine to leave the universities, both medicine and science would be immeasurably the poorer. It may be accepted as axiomatic that medical education is part of university education. We may therefore approach our subject by inquiring what is the purpose of university education and whether this purpose needs modification or amplification in the case of medicine.

I would suggest that the function of university education is to train the student's mind so that he can gather data accurately and so that he can learn to form a balanced judgment on those data. Some disciplines use for the training of judgment data that bear little relevance to those with which the student will later deal. Such, for example, are the classics, and there is no doubt that in our ancient universities the quality of teaching and refinement of methods over the ages has made this discipline an excellent introduction to handling the affairs of men both in the civil services and outside them. In fact, it was once the fashion at the ancient universities to regard all other disciplines as inferior. To my mind this attitude has been of great disservice to our country, for such is specialization at school and in the universities that these future leaders completed their formal education with no more than a smattering of scientific knowledge. In our age, when scientific knowledge and its applica-

tions seem likely to determine the future of mankind, it seems at least odd that such ignorance should be tolerated, much less encouraged, amongst our leaders. Nevertheless, whatever its shortcomings, it is to be acknowledged that the discipline of the classical studies fulfils much of the purpose of university education, and that, at best, it is highly successful in sharpening the wits so that the student emerges with a mind that is a much finer instrument than when he started. Most of the other major disciplines of the university—mathematics, law, theology, natural science, and medicine—have a more vocational aspect—that is to say, they use for educational purposes data of the same kind as those with which the student will deal in later life. There is much to be said for this. To quote the report of the Cambridge University Committee on University Education and Business (1945):

"The view that a university course should not be closely related to a man's ultimate career, but should be a general education in non-vocational subjects, is open to various interpretations. If it is meant that a university course should not consist merely of specific instruction designed for earning one's living then no objection can be taken to it. If, on the other hand, the statement is interpreted to mean that a man is best prepared for life by reading subjects wholly unconnected with his career, then a good many objections can be taken to it. Such an interpretation depends ultimately on the assumption that habits of thought are transferable from one subject to another, but there is nothing in experimental psychology to suggest that such transfer will take place automatically. Any subject can be used as a means of training and developing the intelligence, and when intelligence has been developed by exercise, it will be a better instrument for studying other subjects. This, however, is not the same as saying that the clarity in thought attained in one subject is directly transferable to another. In order to secure clarity the ideas involved must be easily manipulated, and an early acquaintance with these ideas is a great aid to proficiency. Further, if the subject is one for which the student has special interest, he will more readily advance by using his innate ability unchecked by lack of interest in the subject-matter."

I would suggest, then, that the primary purpose of the undergraduate medical course within the university is to train the student's mind so that he can collect and verify facts concerning health and disease in man, and so that he can form a balanced judgment on issues that affect both individuals and groups. If this has been achieved in the undergraduate curriculum, then the special requirements of scientific and vocational medicine can be erected, in the postgraduate period, on a firm foundation. Moreover, the student is equipped to learn, so that in his future professional life he will have little difficulty in keeping abreast of advances in thought or knowledge. It is not the function of the undergraduate curriculum to turn out fully fledged general practitioners or specialists, nor to turn out men who have detailed knowledge of aspects of the basic sciences. These are the proper responsibility of the postgraduate period.

Does the Undergraduate Medical Course Fulfil its Purpose?

If this be the purpose of the undergraduate course, it is now proper to inquire whether this purpose is

fulfilled. We may look at the content and methods of teaching of the course, the examination system, and the effect on the student, and we may compare these with the discipline of classical studies at our older universities.

The conduct of the two courses could not provide a greater contrast. The student reading classics attends a few lectures in the course of the day; the rest of his time is spent in reading and performing individual exercises which he presents for comment or correction to his tutor. The medical student spends nearly all his time in the lecture theatre and laboratories; in the medical curriculum proper in the four schools with which I have been associated as student or teacher the student is not, except in rare instances, encouraged to read original papers or to prepare material for his teachers to correct. In every medical school library which I have visited (and I have visited them all in this country), with one single exception, nearly every student is either reading textbooks or his lecture notes.

We find a similar contrast in the examinations. In classics, the examination papers are designed to test the capacity of the student to discriminate; he is given a wide choice of questions so that he can show his mental capacity, using data with which he has become familiar. How different in medicine! The examination papers allow no choice of question, and they seem designed not to test a student's capacity to discriminate but his capacity to reproduce material learned from the pages of textbooks or the notes of lectures. The kind of question which is still current in the final examinations for university degrees in medicine is a question such as, "Describe the symptoms, signs, complications, and treatment of ulcerative colitis." What a comment on six years of university education! And the earlier examinations are no better. When we set examination papers like this it is not surprising that arts teachers regard us as uneducated.

These facts can leave us in no doubt that, as at present conducted, medical education in the universities is not directed to training the student's mind as a discriminating instrument but merely as a temporary storehouse for miscellaneous information collected from textbooks and lecture notes and retained for long enough to be reproduced at the moment of the examination. Nor is there much doubt (though the assessment is, of course, highly subjective and in the nature of a clinical impression) that the effects of the medical curriculum on the student's mind bear this out. Thus the Planning Committee of the Royal College of Physicians made the following comment:

"We are agreed that, quite apart from lack of character and ability that may be avoided by improved recruitment and selection, the average medical graduate has defects which are to be attributed chiefly to the manner of his training. He tends to lack curiosity and initiative; his powers of observation are relatively undeveloped; his ability to arrange and interpret facts is poor; he lacks precision in the use of words. In short, his training, however satisfactory it may have been in the technical sense, has been unsatisfactory as an education. This is a matter of very great importance. The average student leaves his medical school at about the age of 25; during the subsequent thirty or so years of professional life, his ability to learn from his own experience and that of others, and to keep abreast of the stream of

advancing medical knowledge, depends entirely on those qualities in which his training has left him defective."

It would seem to me that all the numerous criticisms of the medical curriculum are embraced in the general criticism that it does not fulfil what should be its central purpose of training the student's mind. And I suspect that so little has been done to remedy the worst defects because there has been no yardstick, no clear concept of purpose, by which questions of detail could be subordinated to questions of principle.

Can This Purpose be Achieved?

If the primary purpose of the medical curriculum is to train the student's powers of observation and of critical judgment in the field relevant to medicine, then the achievement of this purpose will require a drastic reorganization of the medical course and a revolution in the attitude of most teachers to it. So far as content is concerned, the three great obstacles to education are its enormous content of so-called "facts."* its rigidity, and its disorder. Nearly all committees that have considered the curriculum have recognized these three defects, but it is an interesting fact that most of the proposals for reform would actually have accentuated some, at least, of these defects. It is well recognized that the growth of scientific knowledge has been accompanied by a corresponding growth in the content of the curriculum: much has been added, little taken away. As a one-time teacher of elementary biology to medical students, I maintain, with some right to an opinion, that compulsory botany for medical students is quite unjustified, though of course a knowledge of it may give, as it has given to me, untold pleasure for a lifetime. Again, there is no justification for the amount of anatomy that is taught in some schools. These are old issues, but there are new dangers.

I have heard extremely intelligent scientists maintain that all doctors need a knowledge of nuclear physics and of electronics. I, personally, can think of few things more useless to the average practitioner, though of course they are essential to certain lines of scientific research. I need hardly remark that neither of the eminent gentlemen who presented these views had a medical degree. These examples illustrate the kind of difficulty that an attempt to reduce the content of the curriculum is likely to meet—the obstinate conservatism of old subjects, the predatory enthusiasm of the new. Each represents powerful vested interests; for the amount of time allocated to a subject in the curriculum is, in a sense, a measure of its prestige; and the more time, the larger the staff required and the greater the power and security of the departmental head. I have no doubt that these are very strong motivating forces, though, of course, most teachers are unconscious of them. Hitherto, the student has been sacrificed to these vested interests because there has been no good weapon with which to defend him. A good weapon would be provided by agreement on the purpose of medical education. It would seem to me that the

*I put "facts" in inverted commas deliberately. As the Dean of Harvard (Dr. Sydney Burwell) put it at a Harvard dinner which I was privileged to attend, "My students are dismayed when I say to them, 'Half of what you are taught as medical students will in 10 years have been shown to be wrong. And the trouble is, none of your teachers knows which half."

main problem of medical education is this: Will the medical course be arranged primarily in the interests of educating the student, or primarily in the interests of the prestige of the teachers? I say this as a teacher and with a full appreciation of the meaning of the words I use.

Collaboration in Teaching

The chief difficulty in integrating the course so that the field of biological science relating to health and disease in man is presented and treated as a whole, and not in discrete and apparently unrelated parts, has been the insularity of so many teachers and departments. Schemes of research requiring the collaboration of different departments are probably the most important means by which men of different disciplines learn what is new elsewhere and how to talk a common language. Notable attempts at collaboration in teaching have also been made, for example, in preclinical science at Birmingham. Clinicopathological discussions and combined ward rounds are other important methods.

Finally, I would like to make a plea for elasticity. Any attempt at defining a medical undergraduate course is necessarily a compromise, and a purely arbitrary one. There are many ways to Rome. We shall never find out the best way so long as all pilgrims are forced to take the same path.

The measures which we have considered affecting the content of the curriculum are all concerned with reducing the time which is now required for memorization, so that enough time can be found for the student to develop his own mind. This time will not be properly used unless there is a revolutionary change of attitude on the part of his teachers. There must be more seminars and tutorials (in the old sense of tutorial and not in the sense of a cram-class) and fewer lectures; more reading of original papers and less of textbooks; more kindling of the flame of curiosity, and a greater readiness by teachers and taught to admit and remedy ignorance. This will not be easy, since most teachers mould themselves on those who taught them. Nevertheless, I can think of one or two universities where the professors are so enlightened that a change of the kind I have contemplated would not be difficult. There is a generation of young men who have experienced such teaching in the final honour school at Oxford, in Part II of the Tripos at Cambridge, and in B.Sc. classes at other universities and in other ways. They are aware of what such teaching did for them, and I have no doubt that with a little encouragement they could open a new era in medical education in this country. They have a right to expect, and I hope would receive, support from other faculties in achieving this, the common purpose of university education.

Conclusion

The development of postgraduate education, and, in particular, the institution of the compulsory year of hospital practice under supervision before license is granted to practice independently, have at last freed the undergraduate course to serve its essential purpose, that of training the student's mind to collect and assess data and to form a judgment on them. The fulfilment of this purpose requires, first and foremost, a change in the attitude of teachers, and, second, a reduction in content and an attempt to integrate the subject mat-

ter on which the teaching is based. To quote Karl Pearson: "The true aim of the teacher should be to impart an appreciation of method rather than a knowledge of facts," for method is remembered when facts have been forgotten.

Los propósitos de la Educación Médica

En este artículo, reproducido del *British Medical Journal*, el Dr. G. W. Pickering, Profesor de Medicina de la Universidad de Londres, señala cuáles, en su opinión, son los propósitos esenciales de la Educación Médica, y discute, en términos generales, las causas de que éstos propósitos, hasta ahora, no hayan sido logrados plenamente en Inglaterra. Aunque todo el mundo está de acuerdo que el propósito fundamental de toda instrucción médica es producir médicos bien preparados, hay disensión cuando se trata de determinar qué es lo que constituye una preparación adecuada, y más aún en lo que se refiere a la cuestión de saber si se trata de producir buenos especialistas o, más bien, buenos doctores de práctica general, ya que resulta imposible hoy día conseguir ambos propósitos con un mismo *curriculum*. Sin embargo, aunque se reconoce hoy generalmente que la educación de un médico no termina con su examen final, y aunque se ha avanzado en la organización de la enseñanza post-graduada (particularmente al introducir el año de práctica obligatoria de hospital bajo supervisión universitaria), ésta, dice el autor, se halla aun en un estado de infancia. En cuanto al *curriculum* de los estudiantes no graduados (considerado, desde luego como la parte fundamental de la Educación Médica), el Dr. Pickering, rechazando la idea de que éste ha de servir sobre todo para preparar especialistas, resume el problema principal de la Educación Médica en estas dos preguntas fundamentales: ¿Cuáles son los requisitos básicos que necesitan todos los doctores? ¿Cuáles los requisitos especiales que deben tener, individualmente, los médicos de práctica general, los investigadores científicos y los especialistas? Al tratar de encontrar respuestas definitivas a estas cuestiones, el autor explica cual es, a su parecer, la función esencial de la Universidad ("educar la mente de un estudiante a fin de que éste sea capaz de recoger datos con exactitud y formar un juicio equilibrado sobre ellos"); señala las deficiencias del *curriculum* actual, en ese respecto como en otros, y destaca los principales obstáculos que impiden sean alcanzados los propósitos señalados. Estos obstáculos son tres: la enorme cantidad de "hechos" que se incluyen en el *curriculum* médico, la rigidez de éste y su desorden. Algunos remedios, tales como una mejor integración de los cursos, mayor elasticidad de éstos y una reducción del contenido "factual" del *curriculum*, son sugeridos por el autor en las conclusiones.

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Separatas del artículo, completo, español, podrán obtenerse si son solicitadas por un mínimum de 25 lectores.

Postgraduate Training in Preventive Medicine in Yugoslavia

R. M. TADIC, M.D.*

POSTGRADUATE TRAINING in Preventive Medicine in Yugoslavia is carried out in Belgrade, at the Institute of Hygiene for Serbia, not at the medical school. Serbia is the largest of six republics constituting Yugoslavia. There are 7,335,000 inhabitants in Serbia as compared with 17,853,000 for the whole of Yugoslavia. The neighboring republics, Macedonia, Montenegro, and Bosnia-Hercegovina (with a population of 4,517,000) gravitate toward Belgrade, at least for postgraduate training in preventive medicine on a high level.

Undergraduate medical training lasts six years, but the majority of students graduate near the end of the seventh year. There are about 4,000 students at the medical school in Belgrade; about 600 apply every year, and about 450 graduate every year. During undergraduate training, preventive medicine is taught at the Chair of Hygiene, which comprises: hygiene, bacteriology, epidemiology, biostatistics, and "organization of preventive services and public health protection."

The one-year internship is obligatory after graduation; one month out of 12 is devoted to training in preventive medicine, not in the medical school but at the Institute of Hygiene for Serbia in Belgrade, or at larger provincial institutes of hygiene. After the internship, the physicians are free to choose a clinical or a preventive service. All physicians are state-officers; there is no private practice. After seven hours of work (from 7 A.M. to 2 P.M.), they are free to carry out private practice at home, if they wish.

About 40 per cent of the whole population is under Social Security, which obtains 40 per cent of workers' or state officers' salaries. These taxes are paid by the employers, not by the employees. The members of Social Security and their families are treated free of charge in hospitals, sanatoria, outpatient clinics, etc. All cases of infectious diseases, not only among the members of Social Security, but in those who are not, are treated free of charge. Patients with the chronic diseases — tuberculosis, cancer, trachoma, syphilis, and mycosis — are also treated free of charge. Finally, all children up to three years and pregnant women during the delivery (seven days) are treated free of charge.

There were 3,660 physicians and 191 physician-dentists in Serbia on January 1, 1957, giving a physician to population ratio 1:2,000. However, they are unevenly distributed. There are, for instance, 1,620 physicians in Belgrade, and of the rest more than 90 per cent are in other cities and towns, while less than 10 per cent are in villages. As to other medical

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personnel, there were 1,793 nurses, 246 sanitarians, 914 dental assistants, and 261 aides in pharmacy.

The Preventive Service is carried out by The Belgrade Institute of Hygiene and by 24 provincial Institutes of Hygiene (one provincial institute for about 300,000 population). The next smaller institutions are "health centers," running both clinical and preventive services; there is one health center for about 30,000 to 40,000 population. In small communities and in villages there exist "health stations," with a nurse and a midwife as full-time employees, and a full-time or part-time physician.

Postgraduate Training in Preventive Medicine during the Internship

Postgraduate courses are given every month and are attended by 12 to 16 students. The course is carried out mostly in seminars, in field work, in visiting health agencies, factories, schools, water supplies; a few lectures with demonstrations deal with the organization of mass vaccinations (against small-pox, diphtheria, tetanus, and BCG), and with methods of health education. After four years of experience in running such courses, one might conclude that both the young physicians and the older staff in preventive medicine are quite satisfied. A better comprehension of the aims and methods in preventive service is rapidly spread among these young physicians, and a larger number of them apply for posts in health agencies and preventive institutions. We believe that 2 months of training in preventive medicine during the internship would give better results (2-month courses have already been adopted in Slovenia).

The Training of Specialists in Preventive Medicine

There are specialties in: bacteriology, parasitology, epidemiology, and hygiene with its four branches (industrial, school, community, and food hygiene). The specialization is carried out during three years in corresponding departments of the Institute of Hygiene, Belgrade. The candidates for the last five specialties, e.g., epidemiology and four branches of hygiene, are given a 1-year course, called "One-year course in preventime medicine."[1]

The candidates spend the next two years doing in-service work in the corresponding departments of the Institute of Hygiene. This course in preventive medicine is designed to give candidates the basic knowledge of the whole complex problem and organization of preventive medicine service, including public health. The course is run during 12 months and consists of lectures, demonstrations, laboratory work, field work, in-service work in various public health institutions, participation in campaigns against actual epidemics, inquiries, and investigations, in selected factories, nutritional studies in rural areas, and in other field work conducted routinely by the Belgrade Institute of Hygiene. The report of such a study in a rural area, carried out with a group of physicians as a part of a one-year course, was published in the Bulletin of WHO.[1]

The program of this course is extensive and includes bacteriology, serology, virology, parasitology, hematology, epidemiology, school hygiene, industrial hygiene, community hygiene, food and nutrition hygiene, military hygiene, biostatistics, social medicine and "health protection of the population," administration in

public health institutions, and in-service training in the infectious diseases hospitals.

This course gives a condensed teaching of the whole of preventive medicine and public health. The idea is not to train specialists in preventive medicine in a too narrow field, but to enable them to achieve a better understanding of all activities in protecting the health of the nation. The two following years of in-service are aimed at giving a more thorough knowledge of the selected branch of hygiene or epidemiology.

The specialization in bacteriology and parasitology is carried out in laboratories, as an in-service work; these candidates do not attend the one-year course in preventive medicine.

The "one year course in preventive medicine" is given also to physicians who are not specializing, but who wish to work as sanitary inspectors, to run health centers, or to be employed in any other preventive service.

This duty of a physician-sanitary inspector requires a condensed knowledge in preventive medicine such as is given in the "one year course in preventive medicine." The physicians-sanitary inspectors control and inspect all health institutions, markets, water supplies, school hygiene, factories, mines, hospitals (especially hospitals for infectious diseases), vaccination, disinfection, insect and rodent control. One year of training for this kind of work is very helpful. Besides accumulating the necessary basic knowledge in preventive medicine, candidates learn new procedures and reporting in a standardized way.

Refresher Courses

There are physicians and other staff members, who work in preventive services for several years, who have had no opportunity ever to take training in organized courses. The only experience they have is the knowledge they gathered during the in-service work.[6] It is clear that they should have a broader comprehension of the problems of preventive medicine. These refresher courses are of two varieties: general courses, dealing with general lines of preventive service, or special courses, aiming only at one problem—for instance, hygienic conditions in various plants, or duties and activities of sanitary inspectors, nutritional problems, school hygiene problems, disinfection, vaccination, etc. These courses are run for 1 or 3 months.

Short Courses in Provincial Institutes of Hygiene

Various provincial institutes of hygiene have different health problems to solve. In an industrial area, health problems are different from problems in a rural area, with endemic malaria, trachoma, endemic syphilis, or avitaminosis (pellagra) being found. Therefore, short courses, of from one to two weeks, are run in provincial institutes of hygiene dealing with local, acute problems. A team of teachers from the Belgrade Institute of Hygiene prepares the program with the staff of the selected provincial institute of hygiene, and they carry out together these seminars, laboratory investigations, and field work. Experience has shown that such courses are very useful and very popular. The course is usually attended not only by the personnel of the provincial institutes of hygiene but also by representatives of local, state, and municipal authorities and by other volunteers. It results not only in a clearing up of the local

health problems, but also in obtaining necessary funds and in strengthening the authority of the local institute of hygiene. Finally such courses promote health education in the population.

In-Service Training

Physicians, chemists, pharmacists, veterinarians, sanitary technicians, statisticians, and laboratory technicians are trained on in-service work, in various laboratories and health institutions[2]. This training usually lasts from 1 to 6 months. The departments for in-service are selected according to the needs of the applicants. This practical training is useful from many standpoints and serves also to establish and to work out standard methods, especially in laboratory technics.

In 1956 there were trained in Belgrade Institute of Hygiene 605 persons, i.e., 496 on various courses and 109 on in-service work. Out of 605, there were 399 physicians, 21 chemists, 11 pharmacists, five sanitary engineers, two veterinarians, one biologist, and 266 others as, for instance, sanitary and laboratory technicians, statisticians, etc.

The Training of Other Personnel

The training of other employees in the preventive services is carried out in a similar way. Teaching for the training of sanitary engineers, chemists, sanitary and laboratory technicians, statisticians, etc. is performed in organized courses, seminars, refresher courses, or on in-service work in Belgrade Institute of Hygiene.

The home-visiting nurses are of two types: for general nursing and for tuberculosis. They are not trained in the Institute of Hygiene, but in hospitals and in out-patient clinics.

Antituberculosis dispensaries have their own nurses, who care only for tuberculosis patients. The nurses aides are charged with case-finding patients in areas with trachoma, and they are trained in special trachoma dispensaries.

Summary

Postgraduate training in preventive medicine is a complex problem. It depends on the level of medical training in the country, of the organization of medical and preventive services, and on the level of general education and wealth of the population.

The basic idea is that much more time and money should be granted for the development of this training.

Undergraduate training in preventive medicine should be concentrated in one separate department of the medical school or directed by a board of professors whose teaching is in close relation to preventive medicine matters.

The postgraduate teaching of preventive medicine should be a natural continuation of the undergraduate teaching of the same subject. It should be carried out in a practical way, i.e., in seminars, demonstrations, field work, and in-service work. We emphasize that it should be obligatory for all young physicians during the internship and that it should comprise one or two months of curriculum. This training should make it clear to all future physicians that preventive medicine is in our time indispensable and that its methods should be known and used more and more by all physicians. Also, the physicians should be used to collaborate, i.e., clinicians should utilize the preventive agencies, and the staff in the preventive serv-

ices should collaborate more closely with clinicians.

The postgraduate training of physicians already working in preventive services should be organized in two different ways: i.e.; on regular courses and on in-service work. The courses should be on different levels: for highly specialized posts (specialists) and for routine work. Longer and more advanced courses should be run in central institutions—institutes of hygiene, or in medical schools, and shorter courses in smaller provincial institutes dealing mainly with local health problems.

The in-service training should be planned for all personnel already serving in preventive agencies and also for new applicants. The in-service training should be carried out in central institutions, in departments having highly trained specialists and auxiliary personnel.

Not only physicians should obtain a postgraduate training, but also all the other staff employed in preventive medical agencies such as: sanitary engineers, chemists, pharmacists, biologists, nurses, sanitary and laboratory technicians, statisticians etc. Their postgraduate training should be performed in the same way as the postgraduate training of physicians, i.e., in well organized courses and on in-service work.

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Instrucción de Medicina Preventiva para postgraduados en Yugoeslavia

La Medicina Preventiva se considera ciencia especialmente importante en Yugoeslavia porque el 40% de la población total se halla bajo un sistemas de Seguro Social que incluye servicio médico de toda índole, gratis, para prácticamente todas las personas empleadas y sus familias. Todos los médicos son funcionarios asalariados del Estado, aunque si ellos quieren se les permite dedicarse a la práctica privada después de 7 horas diarias de servicio oficial. R. M. Tadic ofrece en este artículo un informe sobre la enseñanza de Medicina Preventiva, en Belgrado, para estudiantes médicos post-graduados, la cual se imparte en el Instituto de Higiene de Serbia, situado en dicha ciudad. Cursos de Medicina Preventiva más elementales son enseñados a los estudiantes no graduados en la Escuela de Medicina de la Univ. de Belgrado, mas despues de graduarse, durante el año obligatorio de internado, un mes entero es dedicado a una instrucción más avanzada, teórica y, sobre todo, práctica, en dicho Instituto. Esa enseñanza se imparte a grupos de 12 a 16 médicos internos en seminarios y conferencias (sobre la organización de inoculaciones en masa, métodos de educación en Higiene y similares materias de Salud Pública), y mediante experiencias prácticas ganadas durante visitas a las Agencias de Salud Pública, fábricas, escuelas, etc. Aunque ese curso ha dado excelentes resultados y cuenta con la aprobación de la mayoría de los jóvenes médicos, el autor cree que sería deseable extender su duración a dos meses. Los médicos que, después de pasado el período obligatorio, desean especializarse en alguna de las cuatro ramas principales de la Medicina Preventiva (Bacteriología, Parasitología, Epidemiología, e Higiene) continúan durante tres años tomando cursos en los correspondientes Departamentos del Instituto, prestando después, durante dos años, servicio práctico en alguno de esos Departamentos. También se ofrecen en dicho Instituto de Higiene, corrientemente, cursos para médicos que ya son especialistas en Medicina Preventiva y que quieren refrescar sus conocimientos y familiarizarse con los últimos progresos en esta Ciencia.

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The Study of Applicants, 1956-1957

HELEN HOFER GEE, Ph. D. AND ERIC KLINGER

THIS STUDY of the 1956 applicants to medical schools reports signs of a trend toward rapid increase in the size of the applicant population. The study of 1954 applicants, which was prepared after a steady four-year decline in the applicant population, ventured the prediction that the decline had reached its nadir, and that the number of applicants would subsequently begin to rise again.[1] This prediction was confirmed in last year's report on the 1955 applicants.[2] The present study finds not only a continuation but an acceleration of the trend toward large numbers of medical school applicants.

NUMBER OF APPLICANTS

Table 1 shows the number of applicants to each entering class for the past eight years. Whereas the number of applicants to the 1955-56 class increased only about 400 over the previous year, there were nearly 1,000 more applicants for admission to the 1956-57 medical freshman class than for the 1955-56 class. The number of 1956 applicants is about 65 per cent of the number that applied for the peak year of 1949; the increase over 1955 amounts to 7 per cent.

The increase in number of applicants has been paralleled by a tendency for each applicant to apply to a larger number of schools. The average number of applications filed per applicant has increased rapidly and this year is at an all-time high. Economic circumstances that permit attendance at medical schools farther away from home, increased awareness of uneven selection ratios from school to school, relaxation of geographical restrictions upon applicants—these and other reasons may contribute to this increase. In all probability this

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[1]Stalnaker, J. M.: "The Study of Applicants, 1954-1955," *J. Med. Educ.* (1955) 30:833-36.

[2]Gee, H. H.: "The Study of Applicants, 1955-56," *J. Med. Educ.* (1956) 31:883-90.

TABLE 1

SUMMARY OF APPLICATION ACTIVITY DURING THE PAST EIGHT YEARS

Freshman year	Number of applications	Number of individuals	Applications per individual
1949-50	88244	24424	3.6
1950-51	81931	22279	3.7
1951-52	70678	19020	3.5
1952-53	58319	16768	3.4
1953-54	48586	14678	3.3
1954-55	47568	14538	3.3
1955-56	54161	14997	3.6
1956-57	59798	15917	3.8

TABLE 2

EACH SCHOOL'S CAPACITY AND APPLICANT GROUP FILING ACTIVITY

School	Size of freshman class	Number of applicants			Total applications filed by applicants to each school	Average number of applications per applicant
		Men	Women	Total		
Alabama	80	255	25	280	1341	4.8
Albany	61	1143	62	1215	13534	10.3
Arkansas	92	189	5	194	272	1.7
Baylor	81	841	36	877	6295	7.1
Boston	72	1085	73	1158	11574	10.0
Bowman Gray	52	597	33	630	5009	8.0
Buffalo	80	701	36	827	8588	10.4
California, L.A.	80	514	43	557	3789	6.7
California, S.F.	76	490	43	533	3545	6.7
Chicago Medical	71	1002	26	1058	10987	10.3
Chicago, Univ. of	72	946	75	1022	9017	8.8
Cincinnati	93	1054	31	1085	8586	7.9
Colorado	82	216	16	232	570	2.5
Columbia P & S	118	1447	165	1612	13828	8.6
Cornell	83	1183	119	1302	11665	9.0
Creighton	76	642	33	675	5136	7.6
Dartmouth	34	303	9	312	2927	9.4
Duke	76	781	38	819	6715	8.2
Einstein (Yeshiva)	96	1024	69	1093	11250	10.3
Emory	72	614	32	646	4389	6.8
Florida	47	381	18	399	2047	5.1
Georgetown	111	913	89	1002	8812	9.3
George Washington	102	1298	37	1335	12736	9.4
Georgia	95	247	10	257	523	2.2
Hahnemann	108	1008	55	1063	8909	8.4
Harvard	115	1257	113	1370	10560	7.7
Howard	76	407	44	451	2323	5.2
Illinois	189	613	54	667	2906	4.4
Indiana	157	435	17	452	1886	4.2
Iowa	120	179	10	189	410	2.2
Jefferson	176	1827	—	1827	12718	7.0
Johns Hopkins	77	871	79	950	8513	9.0
Kansas	104	329	26	355	2121	6.0
Louisiana	117	259	18	277	1053	3.8
Louisville	100	369	16	385	982	2.6
Loyola (Stritch)	88	786	41	827	5890	7.1
Marquette	103	976	37	1013	7190	7.1
Maryland	92	314	14	328	2142	6.5
Medical Evangelists	97	186	16	202	472	2.3
Meharry	64	467	43	510	2407	4.7
Miami	71	180	9	189	708	3.7
Michigan	200	630	46	676	3147	4.7
Minnesota	128	287	13	300	1273	4.2
Mississippi	76	175	7	182	346	1.9
Missouri	75	169	9	178	344	1.1
Nebraska	81	201	12	213	743	3.5
New York Medical	128	1839	126	1969	18048	9.2
New York University	131	1257	133	1490	14861	10.0
North Carolina	66	278	15	293	1634	5.6
North Dakota	20	94	5	99	422	4.2
Northwestern	181	1404	78	1482	11350	7.7
Ohio State	145	492	16	508	2185	4.3
Oklahoma	99	257	18	275	1045	3.8
Oregon	73	363	19	382	2514	6.6
Pennsylvania	128	1416	84	1500	12577	8.4
Pittsburgh	99	459	33	492	4290	7.2
Puerto Rico	52	108	19	125	414	3.3
Rochester	70	1098	76	1174	11904	10.1
Saint Louis	123	1046	34	1080	8585	7.9
Seton Hall	80	817	66	883	7136	8.1
South Carolina	80	157	5	162	302	1.9
South Dakota	39	214	10	224	1712	7.6
Southern California	68	630	46	676	4860	7.2
Southwestern	102	425	26	451	1238	2.7
Stanford	62	482	29	511	3796	7.4
State U. of N.Y. (N.Y.)	150	1385	120	1505	14155	9.4
State U. of N.Y. (Syracuse)	78	1021	66	1087	10740	9.9
Temple	132	1479	73	1552	13078	7.3
Tennessee	190	517	28	545	1431	2.6
Texas	186	468	29	497	1280	2.6
Tufts	112	703	44	747	6470	8.7
Tulane	120	898	50	936	6917	7.4
Utah	54	270	2	272	1221	4.7
Vanderbilt	80	787	36	703	7357	9.2
Vermont	50	278	18	296	2373	8.5
Virginia, Med. Coll. of	83	314	21	335	2085	6.2
Virginia, Univ. of	76	682	30	712	6035	8.5
Washington, St. Louis	88	1255	61	1316	10563	8.0
Washington, Univ. of	75	444	17	461	2706	5.9
Wayne	75	289	20	308	1370	2.5
Western Reserve	84	1198	74	1272	10070	8.2
West Virginia	31	117	5	122	428	3.5
Wisconsin	83	181	12	193	713	3.7
Woman's Medical	60	—	222	222	1260	5.7
Yale	80	907	88	995	9031	9.1
Total	7824	50165	3633	59798*		3.8

*Total number of applications filed by all applicants to all medical schools.

ratio will continue to rise as the applicant population increases proportionately more rapidly than the number of places available in medical schools.

The nation's medical education facilities have expanded with the rise in application activity. The applicants to the class that entered in 1956 were offered over 200 places more than were available the year before. The expansion in facilities has not quite kept up with the rise in number of applicants, however. Table 3 reveals that 52 per cent of the applicants actually received one or more acceptances; likewise 53 per cent of the 1955 applicants received one or more acceptances. Actually about half (49 per cent of the 1956 applicants entered medical school in the fall of 1956. Note that for each of the past two years, the number of students to whom acceptances were issued has exceeded the number who actually entered medical school by 5 per cent. Between early spring, when acceptances are issued, and fall, when classes start, the plans of a substantial number of students evidently change. In most cases medical schools are able to offer these vacated places to alternates. Occasionally, however, when a student fails to honor his acceptance, he deprives another student of a cherished opportunity.

School Breakdowns

Information on application to individual schools is presented in Table 2. The table gives for each school the size of the freshman class, the number of applicants, and the total number of applications submitted by that school's applicants to all medical schools. It is apparent that application activity varies greatly from school to school, ranging from barely 2 applicants per vacancy in some schools to more than 15 applicants per vacancy in others. These figures must be qualified, however, by consideration of the last column in Table 2, which presents the average number of applications filed by the applicants to each school. In most cases the applicants to a school receiving a high number of applications per vacancy file a large number of applications to other schools also, with the result that not all applicants to such a school are in fact available to it.

The usual large variation among applicants in the number of applications filed was found again this year. Table 3 presents the number of stu-

TABLE 3

RELATIONSHIP OF ACCEPTANCES OFFERED TO NUMBER OF APPLICATIONS FILED

Number of applications filed	Applicants receiving one or more acceptances			Applicants receiving no acceptances			Total applicants			Per cent accepted
	Men	Women	Total	Men	Women	Total	Men	Women	Total	
1	2251	156	2407	3037	251	3288	5288	407	5695	42
2	1113	86	1199	1135	86	1221	2248	172	2420	50
3	1046	65	1111	740	58	798	1786	123	1909	58
4	822	62	884	532	37	569	1354	99	1453	61
5	595	50	645	371	25	396	966	75	1041	62
6	426	45	471	307	23	330	733	68	801	59
7	340	27	367	214	11	225	554	38	592	62
8	239	21	260	185	5	190	424	26	450	58
9	183	12	195	147	8	155	330	20	350	56
10–14	484	29	513	307	11	308	781	40	821	63
15–19	143	4	147	112	3	115	255	7	262	56
20–24	40	3	43	39	1	40	79	4	83	53
25–29	10	1	11	13	—	13	23	1	24	46
30–	10	—	10	6	—	6	16	—	16	62
Total	7702	561	8263	7135	519	7654	14837	1080	15917	

dents who filed given numbers of applications, and shows how many of these students were accepted by one or more of the schools to which they applied. About half (51 per cent) of all applicants filed either 1 or 2 applications, an additional 21 per cent filed either 3 or 4 applications, and the rest filed greater numbers, up to 66. Of the applicants who filed 1 or 2 applications, 44 per cent were accepted by one or more schools. Fifty-nine per cent of the applicants who applied to three or four schools were accepted. The proportion accepted from the group that filed 5 to 9 applications and from the group filing 10 or more was 60 per cent.

Although it is evident that the group that filed 1 or 2 applications met with less success than the others in gaining acceptances, the data presented in Table 4 indicate that their relative lack of success is not a simple function of number of applications filed. These students have lower Medical College Admission Test (MCAT) scores on the average, and those filing only one application probably file it at the school supported by their state of residence in full awareness of residence restrictions. They may, correctly or incorrectly, feel that if they cannot gain acceptance at the state school their chances at any other school are poor.

MCAT Data

Table 4 shows the average MCAT scores for applicants filing various numbers of applications, separately for successful and unsuccessful applicants. It is clear that the accepted applicants as a group average considerably higher on the MCAT than the rejected group. The differences between the means of the two groups range from 53 score points on the Modern Society section to 74 on the Science section.

The data in Table 4 repeat the tendency noted in previous reports for the number of applications filed to vary with level of MCAT score. The trend is upheld on each of the four MCAT sections for accepted applicants. It should be noted that for them MCAT scores tend to rise with number of applications filed up to about 9 applications. At that point, the level of MCAT score tends to decline with increasing numbers of applications. No such clear trend ap-

TABLE 4

MCAT SCORES OF APPLICANTS CLASSIFIED BY NUMBER OF APPLICATIONS FILED

Number of applications filed	Mean MCAT scores of accepted applicants					Mean MCAT scores of rejected applicants				
	N	Verbal	Quantitative	Modern Society	Science	N	Verbal	Quantitative	Modern Society	Science
1	2407	508	519	513	500	3288	457	453	467	441
2	1199	510	518	512	507	1221	461	458	470	442
3	1111	518	527	518	515	798	464	464	477	440
4	884	529	528	526	531	599	461	460	468	445
5	645	526	533	534	532	396	471	465	479	452
6	471	547	530	545	540	330	465	460	477	447
7	367	555	540	542	545	223	482	476	492	457
8	280	556	541	548	542	190	469	459	491	460
9	198	564	550	563	540	155	479	470	487	457
10–14	513	557	533	555	545	308	486	486	494	460
15–19	147	542	518	547	531	115	491	471	496	468
20–24	43	534	507	547	545	40	467	479	511	485
25–29	11	505	490	543	509	13	503	467	496	454
30–34	5	501	465	501	471	2	455	445	505	518
35–39	3	468	522	535	448	4	482	467	507	457
45	1	465	415	435	555	—	—	—	—	—
66	1	545	575	565	425	—	—	—	—	—
Average for total group		536	525	526	519		463	458	473	445

TABLE 5

SCHOOL AVERAGE MCAT SCORES
(Applicants and Enrolled Students at all U.S. Medical Schools)

Average MCAT score intervals	Number of schools with mean scores at each interval							
	Verbal		Quantitative		Modern Society		Science	
	Enrolled	Applicant	Enrolled	Applicant	Enrolled	Applicant	Enrolled	Applicant
600 and over	4	0	1	0	2	0	2	0
550–599	18	5	22	1	22	5	20	1
500–549	39	32	39	36	41	46	29	27
450–499	21	40	20	43	18	30	28	48
400–449	3	8	3	5	1	3	5	9
350–399	0	0	0	0	1	1	0	1
Median of school means	524	493	525	493	527	509	515	485

pears in the MCAT data on unsuccessful applicants.

Table 5 presents some data on the variation among medical schools in the average talent (as measured by the MCAT) possessed by their enrolled students and by their applicants. As is to be expected, the school mean MCAT scores on all sections of the test are higher for enrolled students than for applicants.

It is also notable here and in Table 4 that, of the four sections of the test, Modern Society scores of both applicants and enrolled students are the highest and Science section scores the lowest. Both of these sections are achievement tests, as contrasted to the other two sections which are aptitude tests. The fact that the average Modern Society scores of applicants are high may well reflect the fact that medical schools during recent years have increasingly emphasized the need for breadth in the medical students' background of experience. Some medical schools have lowered specific science requirements also, thus making it possible for students to pursue majors in nonscience fields but still meet medical school science requirements.

The same reasoning could be applied to explain the fact that average MCAT Science achievement scores of applicants have fallen considerably during recent years. It is also true, however, that other science fields and engineering have been actively recruiting students with scientific interests, hence lower Science scores among medical school applicants may well reflect a real shift in the intellectual characteristics of the applicant population.

In 1954 the trend toward higher

TABLE 6

1956-57 ACCEPTANCE DATA BY NUMBER OF APPLICATIONS FILED FOR REPEATERS FROM 1955-56 APPLICANT GROUP

Number of applications filed	Accepted repeat applicants			Rejected repeat applicants			Total repeat applicants		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
1	395	31	426	769	53	822	1164	84	1248
2	147	12	159	319	24	343	466	36	502
3	93	7	100	172	15	187	265	22	287
4	105	7	112	131	6	137	236	13	249
5	63	6	68	91	7	98	153	13	166
6	59	6	65	76	6	82	135	12	147
7	53	2	55	57	2	59	110	4	114
8	40	4	44	43	—	43	83	4	87
9	42	—	42	42	3	45	84	3	87
10–14	96	6	102	70	1	71	166	7	173
15–19	35	1	36	34	1	35	69	2	71
20–24	13	1	14	10	1	11	23	2	25
25–29	4	—	4	4	—	4	8	—	8
30–34	1	—	1	1	—	1	2	—	2
45	1	—	1	—	—	—	1	—	1
66	1	—	1	—	—	—	1	—	1
Total	1147	83	1230	1819	119	1938	2966	202	3168

Modern Society scores and lower Science scores was not discernible. The trend can be seen in the MCAT scores of the 1955 applicants, but not so readily as with the scores of the 1956 applicants, where the trend appears quite plainly.

Repeat Applications

Twenty per cent of the 1956 applicants had applied for entrance to medical schools previously (Table 6). Only 39 per cent of these repeaters were accepted, in comparison with 55 per cent of the first-time applicants. The 39 per cent is very similar to the corresponding figures found in previous years—40 per cent for the 1955 applicants and 38 per cent for the 1954 applicants.

As shown in Table 7, the MCAT scores of accepted repeat applicants were appreciably lower on all sections of the MCAT than the scores of accepted first-time applicants. The differences between first-time and repeat applicants are considerably less pronounced among the rejected applicants. Thus differences in MCAT performance between accepted and rejected repeaters are smaller than corresponding differences in the first-time applicant group.

Acceptance Data

The number of admission offers given to the 1956 applicants is shown in Table 8. Seventy-two per cent of the accepted first-time applicants and 84 per cent of the accepted repeaters were offered only one acceptance. It appears to be exceptional for the same applicant to be accepted by several schools, but it is true that many medical schools cease to consider an applicant if they know he has been accepted by another school.

Table 9 reveals the striking degree of relationship existing between number of acceptances and the MCAT score of the applicant. This relationship may be taken as an indication either that the MCAT is highly correlated with other variables strongly influencing admissions committees' decisions or that MCAT scores are given considerable weight in the admissions process.

Geographical Distribution

Geographical distribution of 1956 applicants (Table 10) very closely resembled the distribution reported last year for the 1955 applicants. As before, New York contributed more applicants than any other single state, amounting to 15 per cent of all 1956 applicants. Applicants from New York, Pennsylvania, and California together totaled 29 per cent of the 1956 applicants, and seven states (New York, Pennsylvania, California, Illinois, Ohio, New Jersey, and Texas) contributed nearly half (47 per cent) of the 1956 applicant group.

The proportion of each state's applicants accepted to medical school ranges from less than 41 per cent for Rhode Island to nearly 71 per cent for Iowa. Notably, California, New York, and Pennsylvania are near the lower end of this continuum with 42.6, 47.8, and 47.8 per cent of their applicants accepted respectively. The relation between these percentages and the presence of private or public medical schools in the respective states is explored in Table 11. The strength of the relationship is rather weak. However, the data may give some support to the generalization that states with tax-supported medical schools afford their applicants greater opportunities to enter medical school than states with private schools only, and that students from states with no medical school have the least opportunity for a medical education. However, it is apparent that the wide variety of particular circumstances surrounding the admission of applicants from the sev-

TABLE 7

MCAT SCORES OF REPEAT APPLICANTS CLASSIFIED BY NUMBER OF APPLICATIONS FILED

Number of applications filed	Mean MCAT scores of accepted repeat applicants*				Mean MCAT scores of rejected repeat applicants*			
	Verbal	Quantitative	Modern Society	Science	Verbal	Quantitative	Modern Society	Science
1	500	500	505	489	453	446	466	442
2	496	490	499	484	461	450	469	443
3	493	510	487	496	448	448	462	441
4	490	502	501	505	451	452	473	458
5	504	510	490	498	459	462	470	468
6	530	526	534	516	452	448	473	444
7	533	536	531	539	471	468	483	459
8	515	514	503	512	489	458	492	471
9	526	511	552	528	471	467	464	455
10–14	527	509	533	525	487	455	497	464
15–19	518	520	538	522	497	476	501	479
20–24	513	499	536	540	507	490	531	490
25–29	550	520	530	532	556	497	565	525
30–34	535	575	585	415	475	515	505	505
35–39	—	—	—	—	—	—	—	—
40–44	—	—	—	—	—	—	—	—
45	465	415	435	555	—	—	—	—
66	545	575	565	425	—	—	—	—
Total repeat group	506	505	510	502	459	451	471	448

*Applicants applying in 1956-57 who also filed applications in 1955-56.

TABLE 8

NUMBER OF ACCEPTANCES OFFERED TO SUCCESSFUL FIRST-TIME AND REPEAT APPLICANTS

Number of acceptances	Accepted repeat applicants*			Accepted first-time applicants			Total accepted applicants		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
1	965	71	1036	4712	342	5054	5677	413	6090
2	132	9	141	1335	98	1433	1467	107	1574
3	37	2	39	391	29	420	428	31	459
4	12	1	13	94	6	100	106	7	113
5	1	—	1	19	3	22	20	3	23
6	—	—	—	3	—	3	3	—	3
7	—	—	—	—	—	—	—	—	—
8	—	—	—	1	—	1	1	—	1
Total	1147	83	1230	6555	478	7033	7702	561	8263

*Applicants accepted for 1956-57 who had also filed applications for 1955-56.

TABLE 9

MCAT SCORES OF ACCEPTED APPLICANTS CLASSIFIED BY NUMBER OF ACCEPTANCES RECEIVED

Number of acceptances	Number of accepted applicants*	Mean score on the MCAT			
		Verbal	Quantitative	Modern Society	Science
1	5852	515	517	517	508
2	1562	545	543	546	544
3	458	569	558	561	563
4	113	580	573	576	588
5	23	614	603	608	624
6	3	562	512	572	565
7	—	—	—	—	—
8	1	605	665	655	605
Total	8012	525	525	526	519

*Number for whom test data were available.

TABLE 10

ACCEPTANCE DATA ON APPLICANTS BY STATE

State	Applicants receiving one or more acceptances				Applicants not accepted			Total number of applicants	Total number of applications
	Men	Women	Total		Men	Women	Total		
			N	Per Cent*					
Alabama	119	16	135	58.2	85	12	97	232	565
Arizona	47	—	47	70.1	18	2	20	67	297
Arkansas	106	3	109	62.6	64	1	65	174	251
California	400	36	436	42.6	539	49	588	1024	5002
Colorado	76	6	82	49.4	79	5	84	166	361
Connecticut	100	10	110	50.2	103	6	109	219	1434
Delaware	10	3	13	44.8	16	—	16	29	108
District of Columbia	55	3	58	44.3	66	7	73	131	448
Florida	212	11	223	58.5	148	10	158	381	1189
Georgia	141	14	155	46.4	167	12	179	334	674
Idaho	21	—	21	54.3	21	—	21	42	193
Illinois	411	30	441	54.5	338	30	368	809	2778
Indiana	194	8	202	56.8	150	5	155	357	784
Iowa	131	8	139	70.6	54	4	58	197	367
Kansas	92	7	99	58.9	63	6	69	168	327
Kentucky	127	9	136	54.2	109	6	115	251	494
Louisiana	161	10	171	63.1	92	8	100	271	478
Maine	31	2	33	80.1	18	—	18	41	153
Maryland	121	6	127	55.0	101	3	104	231	697
Massachusetts	214	26	240	48.4	235	21	256	496	2848
Michigan	307	21	328	55.4	242	22	264	592	1693
Minnesota	145	8	153	63.8	83	4	87	240	566
Mississippi	105	4	109	49.5	106	5	111	220	379
Missouri	157	8	165	65.5	84	3	87	252	689
Montana	21	1	22	45.8	25	1	26	48	182
Nebraska	97	5	102	63.4	54	5	59	161	241
Nevada	6	—	6	46.2	7	—	7	13	54
New Hampshire	17	2	19	51.4	16	2	18	37	146
New Jersey	280	30	310	47.0	327	32	359	678	3999
New Mexico	19	1	20	57.1	15	—	15	35	103
New York	1022	97	1119	47.8	1125	97	1222	2341	15746
North Carolina	143	8	151	50.2	143	7	150	301	776
North Dakota	35	2	37	64.9	18	2	20	57	94
Ohio	385	20	405	52.2	350	21	371	776	2921
Oklahoma	122	13	135	55.3	102	7	109	244	457
Oregon	68	4	72	57.6	49	4	53	125	266
Pennsylvania	539	38	577	47.8	600	29	629	1206	4319
Rhode Island	27	1	28	40.6	40	1	41	69	394
South Carolina	97	3	100	51.2	92	3	95	195	372
South Dakota	37	2	39	65.0	19	2	21	60	120
Tennessee	199	11	210	46.7	68	6	74	284	450
Texas	332	23	355	54.5	278	18	296	651	1591
Utah	61	—	61	60.4	40	—	40	101	259
Vermont	24	1	25	61.0	14	2	16	41	71
Virginia	136	8	144	56.0	103	10	113	257	627
Washington	107	5	112	53.8	92	4	96	208	630
West Virginia	72	7	79	48.5	79	5	84	163	552
Wisconsin	171	10	181	60.1	113	7	120	301	734
Wyoming	16	1	17	45.9	20	—	20	37	120
Puerto Rico	45	9	54	48.2	47	11	58	112	351
U.S. Territories and Possessions	38	2	40	12.9	47	5	52	92	309
Canada	13	1	14	18.7	55	6	61	75	260
Foreign	46	7	53	30.6	111	9	120	173	662
Not Stated	41	—	41	27.7	106	2	107	148	347
Total	7702	561	8263	51.9	7135	519	7654	15917	

*Per cent of total number of applicants from the given state who received one or more acceptances.

eral states precludes the formulation of very valid generalizations.

That states differ materially in the proportion of their populations applying to medical school is shown in Table 12. The patterns are similar to those reported in Stalnaker's study of the 1954 applicants referred to above. The picture in some states, however, has changed appreciably. Delaware, Florida, Nevada, and Wyoming sent three to six applicants more per 100,000 population than they had in 1954. Since both the present population figures and those used by Stalnaker are based on the 1950 Population Census, such changes might be attributable to rapid in-

TABLE 11

RELATION BETWEEN THE TYPES OF MEDICAL SCHOOL IN A STATE AND THE PERCENTAGE OF APPLICANTS FROM THAT STATE ACCEPTED TO SOME MEDICAL SCHOOL*

Type of medical school in the state	Per cent of applicants accepted						Median per cent Accepted
	35% to 45	46% to 56	57% to 62	63% to 68	69% to 74	Total	
Government only	—	10	6	4	1	21	57%
Government and private	1	8	2	3	—	14	54%
Private only	1	5	—	—	—	6	48%
No medical school	2	5	1	—	1	9	46%
Total no. of states	4	28	9	7	2	50	——

*Numbers in the body of the table (except in extreme right-hand column) are numbers of states. "States" includes the 48 states, the District of Columbia, and Puerto Rico.

creases in the actual populations of the states. Estimates of 1956 population obtained from *Current Population Reports* by the U. S. Bureau of the Census showed that there had indeed been substantial population increases in Delaware (26 per cent), Florida (36 per cent), and Nevada (55 per cent).

However, the increase in applicants from Wyoming cannot be explained in this way. There, the increase may well be related to the establishment of interstate commissions. These provide channels through which states like Wyoming, for instance, with no medical school of their own, may make payment to a state with a state medical school for admission of their applicants. No state showed a substantial drop in population between 1950 and 1956. Utah, however, whose population increased by 18 per cent during this period, produced four fewer applicants per 100,000 population in 1956 than in 1954.

Trends

Early in 1956 the Association prepared a chart showing projected estimates of the size of the medical school applicant population.[1] These figures were in turn based on projected estimates of numbers of college graduates to be expected during the next decade. Three projections were developed for the study: a minimum estimate based on the lowest recorded ratio of medical-college applicant to college-graduate population (.048 obtained in 1953); a maximum estimate based on the average of the ratios of medical college applicants to college graduates over the entire period from 1928 to 1955 (.072); and a "best" estimate based on the average of the ratios for the previous six years (.051).

The first opportunity to check these estimates has occurred in 1956, and we find that the best estimate predicted almost exactly 16,000 applicants for 1956, very close to the actual figure of 15,917. If the best estimate continues to provide the most nearly accurate figures, we may expect approximately 18,800 candidates in the 1957 Applicant Study and a total of 22,000 medical applicants by 1964.

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[1] *J. Med. Educ.* (1956) 31:493-4.

TABLE 19

MEDICAL SCHOOL APPLICANTS AND ACCEPTANCES PER STATE POPULATION 1955-56

State	Code	Population (X 1,000)	No. applicants	Applicants per 100,000 population	Per cent applicants of total	No. Acceptances	Acceptances per 100,000 population	Per cent of total acceptances
Alabama	21	3,062	232	7.58	1.5	135	4.41	1.6
Arizona	41	750	67	8.93	0.4	47	6.27	0.6
Arkansas	91	1,910	174	9.11	1.1	109	5.71	1.3
California	61	10,586	1,024	9.67	6.4	436	4.12	5.3
Colorado	42	1,325	166	12.53	1.0	82	6.19	1.0
Connecticut	51	2,007	219	10.91	1.4	110	5.48	1.3
Delaware	71	318	29	9.12	0.2	13	4.09	0.2
Washington D. C.	72	802	131	16.33	0.8	58	7.23	0.7
Florida	73	2,771	381	13.75	2.4	223	8.05	2.7
Georgia	74	3,445	334	9.70	2.1	155	4.50	1.9
Idaho	43	579	46	7.81	0.3	26	4.34	0.3
Illinois	11	8,712	809	9.29	5.1	441	5.06	5.3
Indiana	12	3,934	357	9.07	2.3	202	5.13	2.4
Iowa	81	2,621	197	7.52	1.2	136	5.20	1.7
Kansas	82	1,905	168	8.82	1.1	99	5.20	1.2
Kentucky	22	2,945	251	8.52	1.6	136	4.62	1.6
Louisiana	92	2,684	271	10.10	1.7	171	6.37	2.1
Maine	52	914	41	4.48	0.3	23	2.52	0.3
Maryland	75	2,343	231	9.86	1.4	127	5.42	1.5
Massachusetts	53	4,691	496	10.57	3.1	240	5.12	2.9
Michigan	13	6,372	592	9.29	3.7	328	5.15	4.0
Minnesota	83	2,982	240	8.05	1.5	153	5.13	1.8
Mississippi	23	2,179	220	10.10	1.4	109	5.00	1.3
Missouri	84	3,955	252	6.37	1.6	165	4.17	2.0
Montana	44	591	48	8.12	0.3	22	3.72	0.3
Nebraska	85	1,326	161	12.14	1.0	102	7.69	1.2
Nevada	45	160	13	8.12	0.1	6	3.75	0.1
New Hampshire	54	533	37	6.94	0.2	19	3.56	0.2
New Jersey	31	4,835	678	14.02	4.3	319	6.60	3.9
New Mexico	46	681	35	5.14	0.2	20	2.94	0.2
New York	32	14,830	2,341	15.78	14.7	1,119	7.54	13.5
North Carolina	76	4,062	301	7.41	1.9	151	3.72	1.8
North Dakota	86	630	57	9.10	0.4	37	5.97	0.4
Ohio	14	7,947	770	9.76	4.9	405	5.10	4.9
Oklahoma	93	2,233	244	10.93	1.5	135	6.04	1.6
Oregon	62	1,521	125	8.22	0.8	72	4.73	0.9
Pennsylvania	33	10,496	1,206	11.49	7.6	577	5.50	7.0
Rhode Island	55	792	69	8.71	0.4	28	3.54	0.3
South Carolina	77	2,117	195	9.21	1.2	100	4.72	1.2
South Dakota	87	653	60	9.19	0.4	39	5.97	0.5
Tennessee	24	3,292	284	8.63	1.8	210	6.38	2.5
Texas	94	7,711	651	8.44	4.1	355	4.60	4.3
Utah	47	689	101	14.66	0.6	61	8.85	0.7
Vermont	56	378	41	10.85	0.3	25	6.61	0.3
Virginia	78	3,319	257	7.74	1.6	144	4.34	1.7
Washington	63	2,379	206	8.74	1.3	112	4.71	1.4
West Virginia	79	2,006	163	8.12	1.0	79	3.94	1.0
Wisconsin	15	3,435	301	8.76	1.9	181	5.24	2.2
Wyoming	48	291	37	12.71	0.2	17	5.84	0.2
Non U. S.			452		2.8	161		1.9
Not Stated			148		0.9	41		0.5
Total			15,917		99.8%	8,263		99.7%

Association of American Medical Colleges

MINUTES

OF THE PROCEEDINGS

Sixty-Eighth Annual Meeting

October 21, 22, 23, 1957

ATLANTIC CITY, NEW JERSEY

Office of the Secretary
2530 Ridge Ave.
Evanston, Illinois

Sixty-Eighth Annual Meeting
Association of American Medical Colleges

Chalfonte-Haddon Hall, Atlantic City, N. J.
October 21-22-23, 1957

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Monday, October 21, 1957

INTRODUCTION OF NEW DEANS

The following new deans were introduced:

Robert J. Glaser, University of Colorado School of Medicine; John E. Deitrick, Cornell Medical College; John L. Parks, George Washington University School of Medicine; Thomas J. Turner, Johns Hopkins University School of Medicine; Robert A. Moore (also president of the Medical Center), State Univ. of New York College of Medicine, Brooklyn; T. H. Brem (Chairman of Interim Committee), and Clayton G. Loosli (just appointed dean), University of Southern California School of Medicine; Robert Alway (Acting Dean), Stanford University School of Medicine; Jean Jacques Lussier, University of Ottawa Faculty of Medicine; Jean Baptiste Jobin, Laval University (now an Affiliate Institutional Member); Lee E. Powers (representing Dr. McDonald, dean) of the American University of Beirut, Lebanon.

INTRODUCTION OF VISITORS FROM FOREIGN MEDICAL SCHOOLS

The following visitors from foreign countries were introduced: Dr. John R. Ellis, University of London; Dr. Denis O'Donovan, University College of Dublin, Ireland; Dr. Lee Powers, Associate Dean, Faculty of Medical Sciences, American University, Beirut, Lebanon; Dr. Rubems Maciel, Faculdade de Medicina de Porte Alegre, Brazil; Dr. Soejoenoes, Medical Faculty, Surabaja, Indonesia; Dr. Ba Than, Medical Faculty of University of Rangoon, Burma; Dr. Bo Valquist, Upsala University, Sweden; Dr. Ramon Villarreal, Medical School of San Luis Potosi, Mexico.

INSTITUTE HIGHLIGHTS

The summary of the 1957 Teaching Institute on the Ecology of the Medical Student, which was held October 15-19, was presented by: George Packer Berry, Perspective on the AAMC Teaching Institutes; Robert J. Glaser, Introduction to the 1957 Institute. *Reports by Institute Participants*—T. Hale Ham, Curricular and Noncurricular Forces Affecting the Medical Student and His Development; Charles R. Strother, Characteristics of the Medical Student and the Diversity of Values and Objectives in Medical Education; and Julius B. Richmond, Sociological Studies in Medical Education and Educational Patterns for Medicine.

OPEN HEARINGS ON ANNUAL REPORTS OF COMMITTEES

Open hearings on the Annual Reports of all of the Association's standing committees were held. The innovation this year was a hearing for the Administrative Committee of the Executive Council. The reason for this was to give the Council, through this committee, an opportunity to present complicated or controversial matters to those with special concerns, ahead of the annual business meeting.

BORDEN AWARD

Dr. Murray L. Barr, professor and head of the department of microscopic anatomy, Faculty of Medicine, University of Western Ontario, was presented with the 1957 Borden Award in the Medical Sciences. The award, a gold medal and $1,000, was presented by Oliver H. Lowry, chairman of the Committee on the Borden Award. The award was based on Dr. Barr's work on sexual dimorphism in the structure of the resting mammalian nuclei.

PLAQUE TO DR. ABRAHAM FLEXNER

Dr. John B. Youmans announced the establishment of the Abraham Flexner Award for Distinguished Service to Medical Education. Since Dr. Flexner was not able to be present, Mr. John Gardner, president of the Carnegie Corporation of New York, attended in his place and responded for him as he accepted a plaque upon which the following resolution had been inscribed:

ABRAHAM FLEXNER

A.B., A.M., LL.D., Litt.D., M.D. (Hon. University of Berlin, Washington University.)

Whereas, you have played an important role in improving this nation's

educational and social institutions and practices, and

Whereas, as the result of your survey and report "Medical Education in the United States and Canada," supported and sponsored by the Carnegie Foundation for the Advancement of Teaching and published in 1910, you have made a particularly significant contribution to the progress of medical education in the United States and Canada,

Now be it therefore resolved, that the Association of American Medical Colleges, as the representative of the medical schools and medical faculties of the United States, the Dominion of Canada and their possessions, in recognition of these facts, hereby establishes the "Annual Abraham Flexner Award for Distinguished Service to Medical Education," and

Further be it resolved, that as evidence of this act, you be presented with this plaque upon which this resolution has been inscribed. ASSOCIATION OF AMERICAN MEDICAL COLLEGES, October 21, 1957.

Tuesday, October 22, 1957

ROLL CALL

All Institutional Members were represented.

APPROVAL OF MINUTES OF 67TH ANNUAL MEETING

The minutes of the 67th Annual Meeting, November 12, 13, 14, 1956, The Broadmoor, Colorado Springs, Colo., were approved and published.

INSTITUTIONAL MEMBERSHIP

The American University of Beirut Faculty of Medicine, and the Miami University School of Medicine were voted into full institutional membership.

AFFILIATE INSTITUTIONAL MEMBERSHIP

The Laval University Faculty of Medicine was voted into affiliate institutional membership.

INDIVIDUAL MEMBERS

A total of 73 Individual Members were voted into the Association.

REPORT OF THE CHAIRMAN OF THE EXECUTIVE COUNCIL

The Council met for its organization meeting on November 13, 1956, at Colorado Springs. Dr. John B. Youmans was elected Chairman and the members of the Association's standing committees for 1956–1957 were named.

A statement on internships prepared by the Committee on Internships, Residencies and Graduate Education was approved in principle. Dr. Robert Moore was requested to make minor revisions in it and circulate it to the Executive Council. In final form it is to be published in The Journal of MEDICAL EDUCATION accompanied by an editorial to be written by Dr. Moore.

The recommendation of the Committee on Internships, Residencies and Graduate Medical Education that a study be initiated of the internships connected with medical schools was approved.

The Committee on Planning for National Emergency was requested to attempt to prepare basic plans under which the functions of a bombed-out medical school would be resumed.

The following statement of the Committee on Medical Care Plans was approved:

> "The Committee recommends . . . that appropriate steps be taken at the state and national levels to protect medical education from the potentially deleterious effect on clinical teaching of the new public assistance medical care program."

Dr. Youmans was requested to take the matter up with the Department of Health, Education and Welfare.

The Secretary was instructed to poll: (a) The four-year medical schools to determine how many additional students might be accommodated in their third year class if well-qualified students were available; (b) All U. S. medical schools to procure, in cooperation with Dr. Edward Turner, the information sought by the staff of the House Committee to complete his study for the H. R. Committee on Interstate and Foreign Commerce regarding the need for Federal aid in medical school construction 1957–1963.

The second meeting of the Council was held on February 8, 1957, in Chicago and Dr. Ward Darley was welcomed as the first incumbent of the newly created position of Executive Director of the Association.

Upon the recommendation of Dr. Stockton Kimball, and after a review of the history of the various committees dealing with national defense problems, the following committee structure was voted:

(a) The Joint Committee on Medical Education in Time of National Emergency is to be abolished (subject to similar action by the Council on Medical Education and Hospitals of the AMA).

(b) The Association's present Committee on Planning for National Emergency is to be renamed "The Committee on Medical Education for National Defense."

(c) The present Subcommittee on Medical Education for National Defense (of the Joint Committee) will be made a subcommittee of the Association's new "Committee on MEND" and entitled "The Subcommittee for the MEND Program."

Approval of the teaching program of the freshman and sophomore years of Albert Einstein College of Medicine of Yeshiva University was voted.

The following statement submitted by the Committee on Financing Medical Education was approved:

"It is the conviction of the Executive Council of the AAMC:

(1) That agencies, governmental or private, making research grants should cover the indirect as well as the direct cost of the research;

(2) That the current allowances for overhead almost universally fail to cover the full indirect costs of research;

(3) That because of the inadequate overhead allowance on research grants, many critical financial situations exist in our medical schools and universities."

"The Executive Council therefore expresses the hope that action on this important matter, which has so long been under discussion, will be taken promptly."

At the budget meeting of the Council on May 25, 1957, in Chicago, approval was given to the Administrative Committee's decision: (a) To set up three committees—one in New York, one in Chicago, and one in San Francisco to screen displaced Hungarian medical students; (b) To give such assistance as was possible in placing the qualified students in American schools.

Approval was given to the Administrative Committee's decision that the AAMC should serve as the applicant, custodian and dispensing agent for funds for a new study of premedical education by Severinghaus, Carman and Cadbury.

A second, more complete, questionnaire study revealed that there are 336 vacant places in the third year classes of our four-year medical schools.

The Executive Council voted to recommend to the Association that it: (a) Vote into Affiliate Institutional Membership at this meeting Laval University Faculty of Medicine, visited April 15-18, 1957. The Chairman then asked for a vote of approval by the members which on motion was seconded and duly carried.

(b) Vote into Institutional Membership at this meeting the American University of Beirut School of Medicine visited May 6-9, 1957. At this point in the membership meeting, Dr. George Berry requested permission to make this recommendation personally. Permission was granted and motion was duly seconded and carried.

(c) Confirm by voice vote the approval given by mail vote for full Institutional Membership for Miami University School of Medicine, visited February 18-21, 1957.

Council approval was voted for the booklet "The Guiding Principles in the Care and Use of Laboratory Animals" published by the National Society for Medical Research.

During the present meeting, four meetings of the Executive Council were held on Wednesday afternoon, Thursday afternoon and Friday morning and afternoon respectively.

The minutes of the meetings of November 13, 1956, February 8, 1957, and May 25, 1957, were approved as submitted.

It was agreed the procedure for the use of data from the "Medical College Staff Salaried Questionnaire" would be as follows:

When a request for these data comes from a dean, six somewhat comparable schools will be selected and their data sent to the requesting dean. There will

be added such descriptive but non-identifying statements as "State-owned—Large City—South," etc.

The following action was taken regarding meeting places. As already approved, the 1958 meeting will be held at Swampscott, Massachusetts, and the 1959 meeting at Chicago, Illinois. Council decided to recommend the Eden Roc Hotel at Miami Beach, Florida, for the 1960 Annual Meeting, October 31-November 2. The Teaching Institute would be held October 25-October 29. On motion duly seconded and carried, the date 1960 was approved by the membership.

A communication from the Bowman Gray School of Medicine in which the continuing practice of pharmaceutical offices to employ medical students as detail men was discussed. The Chairman reported the sense of his discussion with certain officers of the National Pharmaceutical Association with regard to the discouragement of the members of the Association from employing medical students in this capacity. The Chairman suggested that scholarships and fellowships would be a desirable substitution. The Council then approved the following statement:

> "The Council of the Association of American Medical Colleges is of the opinion that any activity of a student which might be interpreted as exploitation of his or her status as a medical student or through him or her, of the medical school, is undesirable and should be discouraged."

The Executive Director was instructed to send this statement to the deans of all medical schools and in addition, indicate that the employment of medical students as detail people constitutes an example of the kind of practice responsible for the adoption of this statement.

On motion duly seconded and carried, the approved resolution was adopted by the membership and the action of the Council in this matter approved.

A motion approving the joint AMA-AAMC statement of "Functions and Structure of the Modern Medical School" for submission to the membership for consideration was passed. On motion duly seconded and carried, the membership approved the statement.

The Council received a report from the chairman of the Committee on Financing Medical Education and on passing a motion to approve the report, a resolution was adopted recommending that the Association at this meeting express its deep appreciation for the service which Dr. Hinsey had rendered over many years as chairman of this important committee. On motion, without discussion, this resolution was adopted unanimously by the membership.

The Council received the report of Dr. George Berry, chairman of the Committee on Educational Research and Services. In passing a motion to approve this report, the Council adopted a resolution recommending that the membership at its October 22 meeting express its deep appreciation for the important service which Dr. Berry has rendered over these many years for this very important committee. On motion, without discussion, the resolution was adopted unanimously by the membership.

The Council received a report from the Executive Director, the Chairman, Dr. Stanley Olson, Dr. Stockton Kimball and Dr. Edward Turner on a meeting held in Washington on September 18 called by the Task Force on Health Manpower of the Office of Defense Mobilization. Following discussion of the report, it was agreed that an ad hoc liaison committee would be set up with the Council on Medical Education and Hospitals of the American Medical Association to continue work on this matter.

The Committee heard a report from Dr. Olson dealing with the MEND program and it was decided to await a conference with representatives of the government services to be held on Saturday, October 19, following which the matter would be referred to the new Council.

In closing this report, your Council wishes to present the following three matters for your consideration:

(1) *Whereas, Dr. Alan Gregg, for many years Director of the Division of Medical Sciences of the Rockefeller Foundation died on June 19, 1957 and*

Whereas, Alan Gregg was recognized throughout the world as a leader in medical education and

Whereas, Alan Gregg was instrumental in the development of psychiatry and preventive medicine as major educational and research disciplines and

Whereas, Alan Gregg stimulated many medical educators here and abroad to creative careers and

Whereas, Alan Gregg was deeply interested in the development of this Association:

Now therefore be it

Resolved that this Association recog-

nizes the loss to medical education in the death of Alan Gregg and

Resolved that this Association establishes the Alan Gregg Lecture to be delivered at the Annual Meeting of the Association of American Medical Colleges and

Resolved that a copy of these resolutions be transmitted to his widow and children.

This resolution was unanimously approved.

(2) *The Association of American Medical Colleges recognizes that its elected officers, its committee members and its full-time staff must enjoy the privilege of academic freedom just as do the individuals who are on the faculties of its member colleges.*

With this in mind as the policy of the Association, the elected officers, the committee members and the full-time staff are urged that when they speak or write as the official representatives of the Association, this fact be stated and that, conversely, when doing responsible speaking or writing as individuals regarding matters that are not covered by Association policy or directives, or may even be contrary to same, they use the best possible judgment in avoiding embarrassment to the Association and to themselves by making it clear that they are acting as individuals and not as the representatives of the Association.

This statement was unanimously approved.

(3) *At its 1956 Annual Meeting, the Association of American Medical Colleges issued a statement to the effect that this country should increase its output of physicians by increasing the number of its medical schools.*

As things stand now, after making allowance for the four new schools in development, it appears that between 1957 and 1964 our annual number of medical graduates will increase by approximately 450 to 7400. In the opinion of the Association, exploration of means beyond additional 4-year schools for further increases for the period after 1964 is necessary.

A recent survey revealed that due to attrition during the freshman and sophomore years, plus the fact that some schools can accommodate more clinical than preclinical students, the junior classes of our 4-year schools have facilities for between 300 and 400 additional students. If this number of students were progressing from new 2-year medical programs fully integrated on the one hand, with the undergraduate college program, and on the other hand, with existing 4-year schools, our annual number of medical graduates would be increased significantly.

If these new programs were initiated in a sound university environment, many would undoubtedly evolve in due time into first-rate 4-year schools, as evidenced by the events of recent years. At the close of World War II, there were 8 schools in this country offering the first two years of the 4-year medical course. Graduates of these schools were easily absorbed into the third-year classes of our 4-year schools. At the present time all but 3 of these 2-year schools have changed or are changing to 4-year programs.

In view of these facts and in view of the lower capital and operating expense of 2-year programs, the Association of American Medical Colleges encourages universities with strong leadership and necessary resources to establish new programs in medical education which would offer the first two years of the 4-year medical course.

This statement was unanimously approved.

Following this reading, the Chairman asked acceptance and approval of the entire report by the membership. On motion duly seconded and carried, the report was accepted and approved.

JOHN B. YOUMANS, *chairman.*

THE FIRST REPORT OF THE EXECUTIVE DIRECTOR

Ward Darley, M.D.*

Ordinarily the Executive Director's report would review the year's accomplishments, present problems and activities and future plans. But since I have been on the job for only a few months, I thought that rather than attempt to spell out such a report, I would prefer to share with you my conception of what the basic goals should be, not only for this Association but for myself as its Executive Director.

When the announcement of my accepting this position was first made, I was frequently asked to explain its nature. Since very few people have heard of the Association of American

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*In order that the membership may fully appreciate the goals which the Executive Director sees for the Association, these remarks, as compared to the original verbal report, have been expanded very considerably.

Medical Colleges, I found the answer that was most readily accepted was the explanation that I was supposed to do for the 90-plus medical colleges of the United States and Canada what a president does for the colleges of a university. I still find that this is the easiest answer to this question. But when I give this answer, I always do so with the realization that there is one very important difference between this Association and a university. This difference being that the governing board of a university has complete authority over its president and its constellation of colleges. Any authority enjoyed by the president and the individual colleges is delegated by the governing board. With the Association of American Medical Colleges the situation is the reverse, the Executive Council and the Executive Director have no authority except that which may be delegated by the member colleges.

This statement is not to be taken as a complaint. The complete independence of each member is as it should be. In fact, I think that this is the source of the Association's collective strength. The independence of our medical schools plus their multiple and diversified sponsorship means that, except under the most unusual of circumstances, they are free from the threat of legislative action from any one source that can simultaneously force uniformity or conformity. Conversely, this also means that the decks can be kept clear so that each school can individualize its goals and programs and indulge in experimentation in whatever way it feels may be indicated. The freedom of each medical school to resist oppression or pressure and to set its own destiny in its own way, if intelligently translated into a central organization, such as this Association which is dedicated to the preservation of freedom on the one hand and to the intelligent coordination of this freedom toward the interests of general progress on the other, cannot help but result in a position of strength.

All of this means that if *your* elected officers, *your* committees and *your* staff are to lead *your* Association to a position of effective national leadership, it will have to be through the process of education—education first of ourselves and then of the many publics with which we must deal: our students, faculties, universities and alumni; the many professions and organizations important to medicine as a function of society; our city, county, state and national governments; and last but not least, all of the people of our land, particularly those actively concerned with our economic, social and political leadership. And so, although the source and extent of my delegated authority may be different, I still come back to comparing my job to that of a university president, because I am still engaged in helping to provide continuing leadership to an educational enterprise that involves bringing many colleges together in a coordinated effort.

Now if education is to be the foundation of this enterprise, we must look to the substance and to the means of a program of communication. First, we must have something to communicate, we must maintain effective lines of communication and we must be certain that we reach those with whom communication should take place. And second, if our efforts are to be crowned with success, we must be certain of the moral and financial support essential to a sustained and aggressive effort.

By the term "substance of communication" I mean that we must have accurate facts and information, translated into terms that can be adjusted to the communication media we are using and to the audience we are trying to reach.

This emphasizes the importance of our research. For a long time research has been one of the Association's fundamental activities. Currently our overall research program falls into two rather distinct categories: (1) *basic research*, dealing largely with the medical student and the measurement of his intellectual and nonintellectual characteristics and their significance, and (2) *operational research*, dealing primarily with the day-to-day collective operation of our medical schools and with medical education as a function of society.

The Basic Research Program

Perhaps the most outstanding characteristics of our basic research program has been its continuous growth—both in importance and in volume. The future indicates a continuation of this growth.

The perusal of the published reports of our annual Teaching Institutes will emphasize what I mean, for each year the Office of the Director of Research has provided Institute participants with an increasing amount of data for study and discussion. It is believed that the report of the 1956 Teaching Institute, *The Appraisal of Applicants to Medical Schools*, contains the most extensive sur-

vey and analysis of the student selection and admission process ever conducted by any branch of higher education.

Using the techniques of psychological research, studies are under way on the diversity of interests, personality characteristics, and intellectual abilities of medical students which are pointing the way to a longitudinal analysis of the relationship of these characteristics to scholastic achievement in medical school, to achievement in the internship and residency, and eventually to accomplishment in medical practice. As this case load increases, and as important side leads develop and are pursued, the volume of this research activity will inevitably expand.

The present and projected outcomes of the Association's basic research activities are both theoretical and practical. For one thing, our research is growing both in breadth and depth, because it is beginning to interest research workers in the social as well as the medical sciences. This leads to inquiry in new fields. For another thing, as research results are published and the practical application of our new knowledge becomes apparent, the development of a considerable service program is inevitable.

As an example of these services, the Office of the Director of Research issues such publications as student accomplishment reports and Medical College Admission Test performance reports to the undergraduate colleges supplying students to medical schools. And for the medical schools themselves, a vast amount of data is routinely available, of which the annual *Applicant Study* and the *Undergraduate Origins Reports* are well-known examples. For premedical students, the annual *Admission Requirements of American Medical Colleges* has become an indispensable handbook.

Not so well known is our response to numerous requests that come in from individual schools or groups of schools for assistance in setting up local studies or interpreting research findings so they may proceed more intelligently with the planning and direction of such things as admissions policies or special educational programs.

The application of research results—the service aspect of our research activities—is something that cannot be neglected. It often leads to important new research. It also represents the practical payback of a tremendous investment of money and professional talent—professional talent at the Educational Testing Service in Princeton as well as of the Association staff—and also of the time and energy of our medical school deans and their countless unsung helpers, without whose interest and active cooperation in data gathering this important work would not be possible.

Much of what we do can be applied to the study of other student groups; in fact, much of the knowledge we are gaining about medical students is just as significant to the general field of higher education as it is to medical education itself. More and more frequently the Office of the Director of Research is receiving requests for data to be utilized in studies originating outside our own program. Doctor's dissertations by students in psychology from several universities are based on Association data. Our participation in the Carnegie-supported Institute of Higher Education study on the diversity of student characteristics in all higher education is an exciting example of the kind of cooperative work we can do.

I have dwelt at length upon the basic research part of the Association's program so that, as we take steps to increase its financial support and staff, there will be a sound understanding for the reasons. Now that we are well embarked on this all-important work, we have no choice but to move ahead. Where we are today is a far cry from those heroic days when Fred Zapffe was trying to keep records capable of research analysis—still a significant part of our data—in his own handwriting on 3 by 5 filing cards!

The Operational Research Program

In an activity as complex as medical education, the need for information important to the day-to-day operation and coordination of our member schools and to the education of the public I mentioned in my introduction is very great. Over the past the Association has been conducting the questionnaire and survey research essential to the gathering of this kind of information, but the effort has usually been sporadic and limited to the meeting of crises or needs that have become apparent upon short notice. The time has come when it is essential that we strengthen this aspect of our program so that we can do a more efficient job of meeting critical situations, so that we can study problems well ahead of the crisis stage and also so that we can be developing the kind of research that will permit regular reports to our member schools for pur-

poses of more efficient fiscal, administrative and academic operations and the comparisons essential thereto.

This increased effort will also be necessary if we are to support a sustained program of public information—something essential if medical education is to be properly understood.

Let me illustrate the kinds of study I am talking about:

The most recent examples of sudden need for information are reflected in the communications you have received relative to the recovery of the complete costs of research and the availability of construction funds. Since neither of these questions have been settled, you will probably receive more calls for information and help, because we will again be taking these two problems to the next session of Congress.

There are two very important problems that I see coming over the horizon and that we must be preparing for.

One of these has to do with the changing economic status of our teaching patients. The ramifications of this problem are legion, and the quicker we can get to the business of their identification and study the better. Here, particularly, is indicated a re-analysis of the purposes which our medical service plans must serve and the principles that must underly their administration. Much data and information as well as careful thought will be essential to these considerations.

The second problem I refer to here has to do with an analysis of the internship as it exists in our medical school-controlled hospitals. For years we have seen the internship gradually becoming caught between the senior year of the medical school and the first year of the residency. With the objectives, content and methods of undergraduate teaching undergoing rapid and radical change, it is essential that the impact that this is having upon the internship be carefully studied. In 1958 and 1959 we are planning for the first Institutes that will be concerned with clinical teaching. During these Institutes the internship and its place in the education of the physician will frequently be referred to, so that by 1960 the organization of an Institute around the internship will probably result. If we are to gather and collate the data, opinions and attitudes essential to an Institute on the internship, we should get underway with our effort as soon as possible. Other reasons for a prompt approach to this enterprise are to be found in the pressures being exerted upon the internship by the hospital, medical and licensing interests—many of which are not compatible with the internship as an experience that should be primarily educational. With the number of intern slots continuing to exceed the number of available interns, it is inevitable that these pressures will continue to grow, and as a consequence, if we are to protect the best interests of medical education and of medical students, and if we are to base this upon sound reasoning and action, it is essential that we develop a more satisfactory body of knowledge than is now available.

The most pressing need from the standpoint of long range operational research is the job that needs to be done in the area of comparative cost and income reporting. The fact that no definite or reliable method of providing a comparable cost breakdown of the manifold educational, research and service operations of our teaching medical centers is undermining the public interest in medical education and is also depriving our administrators of much of the information they need in order to improve the efficiency and effectiveness of their own operations. Along with the study of costs must go an analysis of income, how each source of income is spent and the influence which each is having in shaping our educational goals and programs.

If cost and income reporting are to be developed so that the schools can be compared, methods must be found for giving adequate consideration to circumstances that account for the differences between schools. Variations in the relationships between a medical school and its teaching hospital on the one hand and its parent university or governing body upon the other, variations in plans of geographic full time and variations regarding the use of volunteer faculty are examples of what I mean here. The recent studies conducted by the State University of New York and Emory University have demonstrated that the problems of cost and income analysis can be solved, and it is incumbent upon this Association to find ways and means of developing a program of regular reporting so that the vacuum that is currently being filled with guesses, opinions and inaccurate and incomplete data ceases to exist.

There are many other areas that need investigation—some upon a one-time, others upon a recurring basis. Obviously, limitations of funds and staff will make it impossible to shoulder too much at any

one time, but we must be in a position to move effectively and quickly when an emergency job of operational research is necessary and, upon a priority basis, to plan ahead for the longer term and often time continuing studies that we know will be essential if medical education is to move ahead and keep ahead academically, administratively and financially, and this in a manner that will be consistent with the potential progress that we see ahead.

When I speak of operational research I am not unmindful that the demands upon the time and energy of our deans and their staffs constitute factors that place additional limits upon the amount of work that can be kept going at one time, and I assure you that as an expanded program may be developed, these factors will be kept in mind and proper allowances and provisions made.

Staff and Administrative Organization

So much to illustrate what I mean when I talk about the substance of communication. We have much to do. Our staff must be reorganized and augmented. In line with this, the following important appointments have been made: Dr. Richard Young has been elected Secretary and in this capacity will take over the administrative responsibility for school visitations and the Annual Meeting. Dr. John Bowers has been appointed Editor of the Journal of Medical Education. Much of the Journal work will be done at Madison, Wisconsin, which will free some badly needed space at the home office. Mr. Thomas Coleman, recently with Dr. Robert Moore at the University of Pittsburgh, has been appointed Director of Public Information, thus satisfying a long standing recommendation of our Committee on Public Information. Dr. Charles Schumacher has been appointed Assistant Director of Research; Mr. Fred Meier, recently with the National Opinion Research Council, Technical Director of our IBM Department; and Mrs. Lotus R. Barnes, Assistant to the Executive Director. Mrs. Barnes will gradually assume the responsibility for the business and personnel operation of the office.

Only one more major position, the Director of Studies (the by-laws should change this title to Associate Executive Director) has yet to be filled. It will be this individual who will largely be responsible for operational research and the administration of the Teaching Institutes. To make the administrative picture complete, I should indicate that Dr. Helen Gee will continue as Director of Research and that Miss Audrey Skaife will take over the administration of the film library. The positions I have outlined, together with the necessary supporting technical and secretarial personnel, are all provided for in the 1957-58 budget as it was adopted by the Executive Council last June.

With the staff properly organized and functioning, the deliberations of your Executive Council and standing and *ad hoc* committees, as well as your own deliberations in business session, should be greatly enhanced. Also it should be possible to develop a sound and broad pattern of policies so that between sessions of the Council and the Annual Meeting of the Association, your staff can provide the continuing leadership necessary to a growing and purposeful program.

A word about committee work. This is the best way to bring fresh people, fresh viewpoints and new ideas into the work of the Association. I assure you that in the future all committee reports will be studied with care. I know that in the past many of our committees have felt frustrated because of the Association's inability to follow through with many of their recommendations. Even these old and apparently forgotten reports will serve as a gold mine for ideas as we make a fresh start in approaching our problems and developing our program.

Avenues of Communication

Now given the substance of communication and the staff to translate this substance into meaningful terms, I must deal for a bit with the avenues of communication that are so readily available to us. There are five of these at the present time. Others can be developed later.

(1) The Journal of Medical Education. Because of its scholarly articles, its reports of educational programs and experiments, its reports on both basic and operational research, its editorials and its reports of committees and business proceedings, the Journal constitutes a medium through which we can communicate with all of our publics, both in this country and abroad. The meeting of the Editorial Board just concluded leads me to believe that the Journal is on the threshold of another important period of development.

(2) The Teaching Institute. This is a most important medium of communication, particularly between our faculties

and administrators and our colleagues in other disciplines. The Institute reports, like the Journal, reach all of our publics. The research essential to these Institutes constitutes a body of information, which after being tested, discussed and integrated, becomes indispensable to the improvement of medical education. But if the Teaching Institutes, the Institute reports and the research incident to the Institutes are to serve anything like their ultimate potential, much more than the attendance of the delegates to the Institutes as they now function and the reading of the reports must result.

Three additional things should happen, first, each Institute delegate should promptly transmit the substance and the spirit of each Institute to his faculty. As a result each faculty should almost hold an institute of its own. Second, our school faculties do not come together often enough for the discussion of current and mutual problems and interests. The Annual Institute should serve as the pattern and oftentimes the point of reference for regional faculty meetings. The annual meeting of the Southern Association of Medical Schools and Teaching Hospitals comes close to this type of activity. Third, the Institutes and their reports should serve as the pattern and the points of reference for national meetings for those with special interests and responsibilities. The meeting of the Admissions Officers just concluded is an example of what I mean here.

(3) The Annual Meeting. The extent to and the manner in which this meeting has been growing in attendance and stature is ample evidence of its importance as a medium of communication. It is not only the Annual Meeting itself, but the constellation of other meetings that precede and follow that are of importance. To illustrate, the Teaching Institute, the day given to the governmental services, the meeting of the admissions officers, the many committee meetings of our own and related organizations, and last but almost of first importance, the conversations and "bull sessions" that take place in the lobbies, corridors and rooms. This entire operation is a very strenuous affair, and as time goes on it will become more strenuous. Importance justifies the effort.

While the Annual Congress of Medical Education conducted each February by the American Medical Association is not a primary responsibility of this Association, it does represent another golden opportunity for the communication essential to our effectiveness, particularly the opportunity to meet with the general medical profession and the specialty and licensing groups. Many of our committees and committees upon which we have representation meet at this time, and I strongly suspect that before long the deans of our schools will find it necessary to take advantage of this occasion to add a business session of their own.

(4) School Visitation. Until now our official school visiting has been largely limited to the accrediting program which we share with the Council on Medical Education and Hospitals of the American Medical Association. While this type of visitation will continue to be important, it is essential that, in addition, our top staff have the time and energy which will enable them to make frequent, independent visits so that they can develop an intimate knowledge of each member school, its faculty and its particular programs and problems. Up until now, due to lack of time and energy, I have been privileged to visit but few institutions in this capacity, but even these few and all-too short visits have convinced me of the importance of this particular activity. Every school operates in a milieu and must adjust to educational and service demands that differ from every other school. In short, no two schools are alike and unless the staff leadership has both a direct knowledge and a "feeling" for each school and its setting, and also a personal acquaintance with its faculty and administrators, the Association will fall far short of meeting the potential of its opportunities for service and leadership.

And while I mention the need for personal acquaintance with our medical school administrators, I must make it clear that I include here, in addition to the deans and their staffs, the presidents, chancellors and heads of governing boards, even the board members themselves. It is essential that as the work of the Association grows in magnitude and stature it does so with the informed support of these very important people. This represents an assignment that should receive our very early attention. After all it is the governing board and its chief administrative officer that represents the source of authority of each of our schools.

(5) Medical Education Week. Medical Education Week was initiated several years ago by the National Fund for Medical Education with the cooperation

of the American Medical Association, the Association of American Medical Colleges, the American Medical Education Foundation, the Student American Medical Association and the Woman's Auxiliary to the American Medical Association. Time and experience are beginning to reveal that this is proving to be an important opportunity to acquaint the American public with the fundamental part which our medical schools are playing in this nation's system of medical and hospital care. Beginning with the 1958 Medical Education Week the Association of American Medical Colleges will assume the major responsibility for the coordination of the several agencies that sponsor this program. The addition of staff in the field of public relations should enhance the effectiveness of our effort, particularly if by 1959 we can have some reliable data regarding the costs of operating our teaching medical centers. I sincerely hope that each of our schools will now support Medical Education Week with renewed interest. Each school will shortly begin to receive the communications that will be essential to this effort.

Need for Adequate Support

If the Association of American Medical Colleges is to assume a greater leadership role in the field of medical education, it must enjoy the complete support of the faculties of its members colleges, and when I say support I mean both moral and financial. I submit that this is no longer an association of medical school deans. Since the end of the war, while the medical school administrators have played and should continue to play a role in Association affairs, the change over from administration to faculty emphasis has been rapid indeed. The Journal of Medical Education has definitely become faculty centered and the vast majority of the manuscripts that are offered and accepted come from the rank and file of our faculties. The same can be said for the papers that are presented at our Annual Meeting. Our Teaching Institutes are definitely faculty planned and centered. Our faculties are more and more playing a part in committee work and in representing the Association to organizations whose purposes are related to ours. In short, it is my opinion that if the Association rises to the challenges that lie ahead, it will be because faculty participation has been added to the effort. I suggest that the teachers of medicine are professional teachers in their own right and that they be invited and urged to look upon the Association of American Medical Colleges as their professional association and the Journal of Medical Education as their professional publication. If our faculties would accept this position and as a consequence subscribe to the work and the Journal of the Association through the medium of the individual membership, I am certain that both its financial and organizational security will be assured. In the year ahead I hope that the leadership in all of our schools will work toward this end.

Conclusion

I realize that these expanded remarks have dealt with many different subjects. This is necessary because of the need for adequate communication between myself and my constituents. You must be made aware of the goals that I see ahead. If it had not been for the challenges that are inherent in these goals, I would not have joined the Association as its Executive Director. As the conclusion of this report, I would like to offer as the summary of these goals the statement I made upon the occasion of the dedication of our new building.

"This beautiful and functional building is the symbol of the unity that must exist among this nation's schools of medicine. It is also the symbol of the stability and security of the organization that is essential to this unity.

It is therefore appropriate that, as we of the Association of American Medical Colleges dedicate this building, we also rededicate ourselves to the goals set more than three-quarters of a century ago by this Association's founders i.e. the constant improvement of medical education and the continuous increase in medical knowledge. But if the dedication of this building and the rededication of ourselves are to be meaningful to our time and to time to come, we must not only keep these goals before us but also the manner of their attainment.

To this end we must recognize that the most enduring influence and power come from the exercise of intellectual leadership,—leadership that persuades, unifies and works steadily for progressive change through the presentation of properly gathered, properly organized and properly presented information.

In subscribing to this thesis, the many activities of the Association—the Journal; the Teaching Institutes; the school visitation program, the Medical Audio-Visual Institute; the work of the Execu-

tive Council and its many committees, and the supporting program of vigorous research—quickly take on a logical meaning because they then stand out as the instruments of discussion, synthesis and communication essential to the leadership which we profess.

This occasion, therefore, must be looked upon as a very significant milestone in the history of the Association of American Medical Colleges, for here, while we accept and dedicate a permanent home in which and from which we can carry on our work, we also rededicate ourselves to the kind of work that we know must go forward if our medical schools are to make their proper contribution to a nation that must continue healthy and strong in a world rapidly increasing in complexity and competitive effectiveness."

REPORT OF THE SECRETARY AND EDITOR

The school visitation program of the Association and the Council on Medical Education and Hospitals included visits and reports to 15 schools this past year. Assisting the Secretary in this program were Dr. Robert Glaser, Dr. Arthur Ebbert and Dr. Leonard Fenninger.

The visitation program for 1957-58 got under way with a visit to the University of Kentucky, September 11, 12. It will include visits to 15 schools, four of which are in development. Assisting the Secretary in the program will be Dr. Robert Glaser, Dr. Arthur Ebbert, and Dr. John Cooper.

With the voting into Affiliate Institutional Membership of Laval University Faculty of Medicine, another milestone is passed in that all the existing medical schools in Canada are now for the first time members of our Association. Though we have an Institutional Member in Puerto Rico and have had for many years an Affiliate Institutional Member in the Philippines, the voting of the American University's School of Medicine in Beirut into Institutional Membership establishes a new policy of considering for membership medical schools with American charters, American Boards of Trustees, American financial support and sponsorship, American teaching program, and American staff members.

Our membership list stands as follows:

Institutional Members	83
Affiliate Institutional Members	13
Sustaining Members	8
Individual Members	1,401

The need for a vigorous promotion of Individual Memberships is apparent.

During the past year 10 questionnaires were submitted to the Secretary's office for recommendation. The recommendation was for cooperation in 5, against cooperation in 5.

The demand of foreign trained physicians for help in obtaining opportunities for advanced training in this country was considerably less this year than last year. While 103 such students made requests for help last year, only 50 made such requests this year. In addition to the 50 requesting assistance, 371 registered in the National Intern Matching Program and 160 of these were matched and received appointments in United States hospitals. The establishment of the jointly sponsored Educational Council for Foreign Medical Graduates on October 1, 1957 should contribute considerably to solving some of the knotty problems associated with placing foreign medical graduates in United States hospitals.

The Journal of MEDICAL EDUCATION has had a very successful year. The quality of the articles submitted has been steadily improving and thanks to our active Editorial Board the proportion of solicited articles increased. Twenty-one manuscripts were rejected this last year. A backlog of approximately 60 articles makes a 6 months lag between receipt of the article and its publication almost routine but thanks to a Macy Foundation grant a rush article can simply be added to a previously planned issue and the added cost of the oversize issue absorbed. In the course of the year five supplements were published, each one subsidized by an outside agency and each one serving as an extra bonus to our readers. For the first time in the history of the Journal the sale of advertising has exceeded $35,000. Throughout the year each article has been summarized in Spanish and this summary published. Through the effort of Dr. Bowers, Chairman of the Editorial Board, the number of foreign correspondents has been increased and the number of reports on progress in medical education in other countries has multiplied. The Journal is definitely beginning to take its place as an important medium for the international exchange of ideas in medical education.

As I close this 9th and last report to the Association, may I thank you all for

the fine cooperation and support you have given me throughout my term of service and congratulate you on the way in which you have implemented the Association to carry on its increasingly important work in the years ahead.

As Director of the newly established Educational Council for Foreign Medical Graduates I will have many occasions to call upon you for assistance and I hope you will continue to be as cooperative in the future as you have been in the past. DEAN F. SMILEY, *secretary.*

After the report of the Secretary and Editor, the following resolution was unanimously passed.

Whereas, Dr. Dean Smiley has served the Association of American Medical Colleges faithfully and effectively as Executive Secretary and Editor since 1948, and

Whereas, during this time as Secretary he has assisted the Association with the expansion of its program and responsibilities, with the enlargement of its staff and with the construction of and transfer to its new offices in Evanston, and

Whereas, during this same time, as Editor, he has played a prominent part in raising the stature of the Journal of Medical Education in the fields of medical journalism and higher education, and

Whereas, he is now leaving the Association to assume the Directorship of the Educational Council for Foreign Medical Graduates, an activity that may well prove to be of the first importance in maintaining the standards of medical and hospital service in this country,

Now be it therefore resolved that the Association of American Medical Colleges, at this 68th Annual Meeting, October 22, 1957, express deep appreciation for the good works of Dr. Smiley and wish him every success with his new and important assignment.

REPORT OF THE TREASURER

Dr. Stockton Kimball presented a series of slides which summarized the financial operations of the Association over the past year as follows:

YEAR 1956-1957

EARNED INCOME		
Dues—Institutional	$85,000.00	
Dues—Individual	13,910.00	
Dues—Sustaining	10,000.00	
	$108,910.00	
M. C. A. T.—Revenue	82,973.48	
Bldg. Fund—Interest Income	2,973.28	
Interest on Investments	7,304.39	
Subscriptions	4,296.55	
Publications	21,137.12	
Advertising	35,227.95	
Film Sales & Rentals	8,494.86	
Miscellaneous	486.84	
		$271,804.47
GRANT INCOME FOR SPECIAL PROJECTS		
Abbott Laboratories	$ 10,000.00	
National Heart Institute	50,000.00	
Josiah Macy, Jr. Foundation	10,000.00	
Overhead on Projects	1,305.84	
		$ 71,305.84
TOTAL INCOME		$343,110.31
DISBURSEMENTS FOR REGULAR SERVICES		
Salaries & Annuities	$137,629.31	
Payroll Taxes	2,373.97	
Contracted Services & Equipment	20,402.42	
Office Supplies, Telephone, Postage	25,454.26	
Rent & House Expenses	16,024.61	
Furniture & Equipment	19,479.08	
Traveling	27,286.02	
Annual Meeting	2,720.20	
Insurance	382.32	
Publications & Printing	52,646.04	
Mailing and Engraving (Journal)	2,248.12	

Advertising & Circulation Promotion		762.27	
Miscellaneous		67.45	
			$307,476.07
DISBURSEMENTS FOR SPECIAL PROJECTS			
Film Purchases & Expenses		$ 20,488.64	
Foreign Subscriptions		2,840.00	
Moving		3,221.55	
Maintenance		5,683.89	
Building	$162,930.34		
Land	8,986.91	171,917.25	
Teaching Institute and Special Studies		61,180.38	
			$265,331.71
Deducted from Reserves			229,697.47
			$ 35,634.24
TOTAL DISBURSEMENTS			$343,110.31
Net Income (working capital)	$154,191.74		
(restricted funds)	162,030.05		
Total reserves 6/30/57	$316,221.79		
BUILDING FUND			
Building:			
Contract		$237,896.10	
Testing Charge		70.00	
Additions		6,908.58	
Architect's Fee		14,290.35	
			$259,165.03
Air Conditioning		25,882.00*	
Architect's Fee		1,036.83**	
			26,918.83
Building Total			$286,083.86
Ground:			
Landscaping		$ 5,974.75	
Tree Removal		148.50	
Sprinkler System		2,695.00	
Ground Total			8,818.25
Back Taxes			1,068.66
GRAND TOTAL			$295,970.77

* 1st payment—paid 9/25/57 ..... $10,200.00
2nd payment—due 15,682.00
** Due on fees—architects' ..... $ 778.01
Due (possibly) architect's fee on air-conditioning 258.82

JOINT REPORT OF COMMITTEE ON EDUCATIONAL RESEARCH AND SERVICES AND THE OFFICE OF THE DIRECTOR OF RESEARCH

The developmental history of the Committee on Educational Research and Services (CERS) and summaries of its manifold research and service activities were detailed in the Committee's reports made at the 66th[1] and 67th[2] Annual Meetings of the Association of American Medical Colleges. Inasmuch as there have been no changes in the Committee's leadership nor in the organization of its activities during the past year, it is not necessary to review these activities in detail again this year. Dr. Berry con-

1. Minutes of the Proceedings, 66th Annual Meeting: Report of the Committee on Teaching Institutes and Special Studies, *Journal of Medical Education*, Vol. 30, No. 12, December 1955, pp. 727-736.
2. Minutes of the 67th Annual Meeting: Report of the Director of Research and Report of the Committee on Educational Research and Services, *Journal of Medical Education*, Vol. 32, No. 1, pp. 61-63 and 71-78.

tinues to serve as Chairman of the Committee, Dr. Hunter as Chairman of the Subcommittee on Evaluation and Measurement, and Dr. Gee as Director of Research. Dr. Darley, who joined the Association as Executive Director in February of 1957, has contributed generously of his time and effort to various problems with which the Committee has dealt.

Growth in the Committee's programs during the past year has been manifested chiefly in emerging research and test-development activities and in preparation for the next series of Teaching Institutes. Beginning in 1958, these Institutes will delve into the problems of teaching and learning during the future physician's clinical and postgraduate years. The many meetings that have been held during the past year in carrying out the work of the Committee, and to which various subgroups of the Committee's membership have contributed a great deal of time and effort, are specified in the sections of the present report devoted to an account of these deliberations.

The change in location of the Association's central office from downtown Chicago to Evanston resulted in a complete turnover in the clerical staff of the research organization and approximately a 50 per cent turnover in the technical International Business Machines staff. Obviously, such a revolution has had its effect on the smooth operation of the Committee's activities. In addition, the normal course of events has resulted in the loss of key supervisory and staff-level personnel. It is expected that restaffing operations will be completed on November 1, 1957. It is anticipated also that many improvements will by then be effected in the promptness and efficiency with which the Committee's activities can be carried on. Notable among new appointments to the research staff are: Mr. Charles Schumacher as Assistant Director of Research to replace Mr. Clifton Gray; Mr. Fred Meier, who replaces Miss Joan McJoynt in supervising technical and IBM operations; and Miss Lorraine Camper, who will succeed Mrs. Lotus Barnes as Administrative Assistant when the latter assumes a staff-level position in the Association's central office. Mrs. Barnes earlier in the year replaced Mrs. Frances Halsey. Mr. Schumacher previously worked with the research staff during the summer of 1956 when he conducted the analysis of the questionnaire materials for that fall's Institute. His doctoral dissertation, which will presently be submitted to the Department of Psychology at the University of Minnesota, is concerned with methods of identifying the characteristics of medical students who plan to engage in various types of careers in medicine and in specialty practice. Research for his dissertation was carried out under the auspices of the Committee, and an account of this research will be published in the *Journal of Medical Education*. Mr. Meier joins the research staff following ten years of technical supervision of data-processing activities at the National Opinion Research Center at the University of Chicago.

Finances. Expenditures for the Committee's operations totaled nearly $104,000 for the 1956-57 fiscal year, exclusive of restricted research project and Teaching Institute activities. Expenditures for the latter totaled approximately $11,500 and $50,000, respectively. The Committee's expenditures were within the amounts budgeted for each area of activity. Because income from publications exceeded expectations, a balance of approximately $6,000 was returned to the Association's general funds.

During the past year, the Commonwealth Fund and the National Institutes of Health have reaffirmed their confidence in the Committee's programs. A $100,000 grant from the Commonwealth Fund contributes $50,000 for the support of research and service activities and $50,000 for the partial support of the 1958 and 1959 Teaching Institutes. Partial support, in the amount of $25,000 per year, has been granted by the National Institutes of Health for the four Teaching Institutes that are scheduled for 1958 to 1961. The National Institute for Neurological Diseases and Blindness will sponsor the 1958 Teaching Institute, the National Institute of Mental Health will sponsor the 1959 program, and the National Heart Institute the 1960 and 1961 programs.

The Committee wishes to take the present opportunity to express sincere thanks to the Commonwealth Fund and the National Institutes of Health of the Public Health Service for thus continuing to recognize and encourage the members of the Committee in their efforts to serve society through the development and improvement of medical education.

Teaching Institutes. The 1957 Institute on "The Ecology of the Medical Student" will be held from October 15 to 19 at Atlantic City, New Jersey, under the dynamic leadership of Dr. Robert J. Glaser, Chairman. This Institute con-

cludes the pair devoted particularly to the problems of the medical student. The background of the development of this pair of Institutes was discussed in detail in the Committee's 1956 Annual Report, which was published in the January 1957 issue of the *Journal of Medical Education*. The chronology of the Teaching Institute program as a whole, and of the 1953-55 series of Institutes that dealt with the problems of teaching the basic medical sciences, was presented in the Committee's 1955 Annual Report, published in the December 1955 issue of the *Journal*.

The Report of the 1956 Institute, *The Appraisal of Applicants to Medical Schools*, was published in the fall of 1957 in two simultaneous editions, a clothbound volume and Part 2 of the October 1957 issue of the *Journal*. When this book is joined by the Report of the 1957 Institute on "The Ecology of the Medical Student," the two volumes will make available to medicine and to higher education at large a unique compendium of information on, and interpretation of, the interrelationships among psychological, sociological and administrative factors associated with education for a profession. Other professions, lacking as they do a similar forum for the free exchange of ideas and information, stand to benefit significantly from the Association's efforts.

At the meeting of the Committee on Educational Research and Services that was held on November 11, 1956, it was agreed that the 1958 Institute on the problems of teaching clinical medicine would require an extended period of time for adequate preparation. The Association's Executive Director, Dr. Darley, with the assistance of the Chairman and the members of the Committee on Educational Research and Services, organized two *ad hoc* planning sessions. Through the generosity of the Commonwealth Fund, these *ad hoc* meetings were held on May 18 and June 29 at Harkness House in New York City. Distinguished representatives of clinical departments chosen from medical schools throughout the nation were invited to join in planning for the series of complex Institutes that lies ahead. Representing the Committee and the Association's staff at both meetings were Doctors Berry, Darley, Gee, Hunter and Jacobsen. Present at the May 26 meeting were: Doctors Lester Evans, Knight Aldrich, Dana Atchley, Charles Janeway, Richard Magraw, Carl Moyer, George Reader and Julius Richmond. Present at the June 28 meeting were: Doctors Evans, Reader and Richmond, who helped to provide continuity for the discussions, and Doctors Thomas Brooks, Thomas Holmes III, Ian Stevenson, George Jackson, Ben Wilson and Stewart Wolf Jr. Stenotyped records of the discussions held at these *ad hoc* meetings are available in the Committee's files.

Following the second *ad hoc* session, the appointment of Dr. Julius Richmond of Syracuse University as Chairman of the 1958 Institute was recommended to the Executive Council.

Tentative selection of a Planning Committee for the 1958 Institute was made at another *ad hoc* meeting that was held on July 14 in Estes Park, Colorado. In attendance, in addition to the Committee's and Association's staff representatives who had been present at the previous meetings, were the new Chairman, Dr. Richmond, and Dr. Glaser, Chairman of the 1957 Institute. Objectives toward which the 1958 Institute should aim were extensively explored, an agreement being reached that the content should center around the learning process of the student. Such tentative subtopics for the Institute were suggested as: the setting for learning, faculty development, student evaluation, and curricular development.

The need for a nationwide study on perception by the public, the medical faculty, and the medical student of society's medical requirements and demands was discussed. Such a study, designed to provide background for the series of "clinical" Institutes, would necessarily require the help of a professional survey research center. On July 26, Doctors Richmond, Jacobsen and Gee visited the Michigan Survey Research Center to explore the feasibility of securing the services of the Michigan group for undertaking a nationwide study under the auspices of the Association. Further explorations are contingent upon the availability of new financial support.

Meetings of the Planning Committee for the 1958 Institute will be resumed in November, after the complete membership of the Planning Committee has been approved by the Executive Council.

The Continuing Group on Student Evaluation. An immediate result of the 1956 Institute on "The Appraisal of Applicants to Medical Schools" was the earnest expression of need by admission officers for a new mechanism to make possible the implementation of programs to which the Institute had opened the

doors. The Committee on Educational Research and Services was requested to sponsor an arrangement through which admission officers could continue to meet regularly to learn about selection techniques, to hear current reports of research on selection methods, and to develop projects aimed broadly at improving recruitment, appraisal and applicant selection.

The Committee agreed to sponsor a new organization, asking Dr. John L. Caughey Jr., to act as Chairman. An *ad hoc* committee, consisting of members of the 1956 Institute Planning Committee, met on February 10, 1957, to arrange for the first meeting of the new organization, which will be held between the conclusion of the 1957 Institute and the start of the 68th Annual Meeting of the Association. This meeting will follow the techniques developed for the Teaching Institutes—brief general meetings being followed by round-table discussions. Material to be presented at the meeting on October 19-20 includes discussions of the role of the Association's research office in the admission procedure, plans for MCAT development, the use of tests in applicant appraisal, and a report on the research concerning personality and interest measurement that is being carried on under CERS auspices.

At the conclusion of the first meeting of Dr. Caughey's group, consideration will be given to the desirability of establishing a continuing and more formal organization.

Medical College Admission Test. In its 1956 report to the 67th Annual Meeting of the Association, the Committee described a study made during 1955-56 of the status of the MCAT. It was then reported that the test has well served its purpose since 1948, when it was established in its present format, but that progress in the field of test methodology and construction now indicates the desirability of the establishment by CERS of a program of test development.

Plans for a test-development program, to be carried on under the guidance of of CERS by the Educational Testing Service (ETS) of Princeton, New Jersey, were approved at the Committee's meeting held on November 11, 1956, at Colorado Springs. The Subcommittee on Evaluation and Measurement was authorized to work with representatives of the ETS staff toward the preparation of a specific proposal, both for the development of new forms of the test and for appropriate research projects to investigate their utility.

As a result of the 1955-56 study, it had been agreed that (a) new forms of the test would be needed by 1960; (b) it would be desirable to consider some revision of content for the new forms; (c) a panel of teachers drawn from various medical schools should be selected to meet with representatives of the Committee and ETS for the purpose of defining the intellectual qualities believed necessary for optimal success in medical school; (d) on the basis of (c), ETS should prepare a proposal for test development and research to be submitted to the Subcommittee on Evaluation and Measurement.

Doctors W. P. Anslow, John L. Caughey Jr., George A. Perrera and Gordon H. Scott constituted the panel referred to above. This group met with representatives of the Committee (Doctors Berry, Hunter and Gee) and of the ETS staff on January 4 and 5, 1957. From the discussion of intellectual qualities believed to be important in the successful development of a future physician, the following emerged:

(1) *Flexibility in thinking*—the ability to change or to re-evaluate an accepted hypothesis in the light of new evidence;

(2) *Balanced judgment*—the ability to evaluate and to weigh the importance of quantitative and semi-quantitative factors in a complex in which the absolute or "true" value of these factors is unknown, and to arrive at a reasonable hypothesis among the many possible hypotheses provided by the complex and factors;

(3) *Critical perception*—the ability to evaluate the printed page or the spoken word in an impartial, nongullible manner;

(4) *Educability*—the capacity for continuous intellectual growth;

(5) *Selectivity*—the ability to select from a mass of learned material those elements relevant to the problem at hand;

(6) *Synthesizing ability*—the ability to perceive unity and relatedness among apparently discrete areas of knowledge;

(7) *Cultural awareness*—a broad interest in, and sensitivity to, the world of which the individual is a part.

On the basis of these criteria, ETS developed a proposal for the development of new and revised forms of the test by

1960 and for a program of continuing research aimed at further improvement of subsequent forms. The Subcommittee on Evaluation and Measurement met with ETS on April 13, 1957, for the purpose of reviewing, amplifying and clarifying the proposal. The results of this discussion were presented by Dr. Gee and Dr. Hunter to the Association's Executive Council on May 24, 1957. Following the Executive Council's review of the envisioned program and approval of the expenditure of funds from income derived from the administration of the test, requested additional revisions were made in the proposal by ETS. This proposal, in its final form, will be reviewed by the Committee on Educational Research and Services at its meeting on October 20, 1957.

Although the technical nature of the proposal does not warrant its reproduction in this report, copies may be obtained from Dr. Gee by those who are interested. At the spring and fall administration of the MCAT in 1957, normative data have been obtained concerning the applicant's state of residence, amount of undergraduate education, and major field of study. From these data, distributions of scores will be published that will enable admission committees to make more definitive comparisons of students' test performances. It will be possible to determine, for example, how each applicant compares with other applicants from the same geographical region, how he compares with other students who have had a similar amount of undergraduate education, and how he compares with students whose undergraduate major field of study is similar to his own.

It was reported a year ago that a handbook to assist admission committees in making maximal use of the information available from the MCAT was being planned. The need for intensive work on test development took precedence over the handbook, largely because information deemed essential for this manual was not available. The normative data prescribed above are needed, as well as a substantial body of validity data. The latter are currently being obtained through a joint study with the National Board of Medical Examiners of interrelationships among MCAT scores, achievement as measured by the National Board tests, and achievement as reflected in grades obtained in medical school. Representative examples of the use and interpretation of MCAT data, in conjunction with the other information that is usually available on applicants to medical schools, are also being gathered. In preliminary form, the handbook should be available by the spring of 1958.

The annual and alternate-year reports involving the MCAT that are routinely made to medical schools and undergraduate colleges were described in detail in the 1956 report of the Committee. The production of these MCAT reports continues unchanged. The trend reported a year ago toward lower scores in the categories of quantitative ability and science achievement, has continued. One possible explanation of this trend is that larger numbers of students whose talents are strongest in the verbal-linguistic areas are applying for entrance to medical schools. Another possibility is that fewer students of outstanding abilities and interests in quantitative and science fields are making application.

Reports to medical schools. The Committee's plans to establish routine reports to the medical schools on various aspects of the application, admission and progress of medical students have been delayed as a result of the Association's move to new quarters and the accompanying turnover in staff. It has been planned also to prepare a handbook for medical schools, describing in detail the information exchange through which periodic reports are made possible, and providing a calendar of target dates for medical schools to follow in submitting the essential data on which the reports are based. Preparation of this handbook has been delayed until procedural detail is finalized.

The rapid development of the Committee's research programs has revealed inadequacies in the existing record-keeping system, which has grown by accretion since its inception in 1949. Educational Testing Service, too, has reported difficulties arising from the fact that records and reporting procedures have outgrown the IBM card layouts. The system has therefore been revised this year and brought up to date; the transition is nearly complete. Decision by the Committee is required on one remaining problem concerning reporting procedures on student accomplishment. Once action has been taken by the Committee, routine procedures can be established and the handbook can be prepared.

Two reports, known as the Undergraduate Origins Reports, which describe the progress of students through medical

schools in terms of undergraduate colleges of origin, were changed at the June 1956 meeting of the Committee from annual to alternate-year reports. These reports are scheduled for issuance in odd-numbered years; this year, one was issued in August—the second is currently in press.

The two annual reports that keep medical schools informed of their competitive status in respect to other medical schools were last issued in June and August of 1956. The Committee will consider at its October 1957 meeting the possibility that the breadth of the Committee's services might be increased if the latter reports, like the Undergraduate Origins Reports, were scheduled for alternate years.

The following studies for use by medical schools and the public are being maintained: (a) bibliography of studies on medical student selection and evaluation, (b) vocational guidance reading list on careers in medicine and other health professions, and (c) annual catalogues of opportunities for summer study in all the medical schools of the United States.

One aspect of preparation for the 1956 Institute on "The Appraisal of Applicants to Medical Schools" involved a survey of 1956 freshman medical student opinion of the admissions process. A report on the over-all freshman consensus is included in the Report of the Institute, to which reference has been made previously. After this analysis, which was based on a 10 per cent random sample of student responses, the data were processed in their entirety and a confidential report was prepared for each individual medical school. These reports have enabled each school to study the reactions to their admission procedures both of students who enrolled in their schools and of students who applied but enrolled elsewhere. A variety of information about the distribution of socioeconomic and educational backgrounds of the student body was also provided.

In December 1956, at the request of many medical schools that are interested in, or actually engaged in, personality and interest measurement research on medical students, a report summarizing all reported ongoing and recently completed research projects in these areas was distributed to all medical schools in the United States. This summary has also been published in the appendix of *The Appraisal of Applicants to Medical Schools: Report of the Fourth Teaching Institute*. Exchanges of information of this kind would be helpful to all who are involved in, or who contemplate, research studies of student characteristics. Unnecessary duplication of effort can be avoided, and those engaged in projects with similar aims gain the opportunity to exchange information on methods, procedures and results. Whether the information contained in the summary is of sufficient value to warrant periodic re-issuance, will be investigated during the coming year.

Admission Requirements Book. The 1957-58 *Admission Requirements of American Medical Colleges* was published on August 1, more than a month earlier than in previous years. The results of last year's Institute questionnaire analysis made clear the fact that the admission book is needed by applicants to medical schools long before the start of the school year—nearly half of the medical schools in the United States begin to receive applications before July 1 of the year preceding the entrance of a new class. If it is possible for medical schools to cooperate by submitting promptly the information needed to produce the admission book, earlier publication next year will be attempted. The current edition includes for the first time detailed information on each of the Canadian medical schools. Thus, students interested in studying medicine now have available in one volume accurate information about every medical school in the United States and Canada.

Agreement on admission procedures

For many years, the Association has striven to make easier for the student his transition from college to medical school. These efforts culminated at the business session of the 65th Annual Meeting of the Association at French Lick, Indiana, on October 20, 1954. At that time, the provisions now commonly referred to as the "traffic rules" were adopted by the Association with a dissenting vote of one. In recent months, there has been some local confusion concerning the traffic rules, apparently owing to misunderstanding at a few medical schools of the agreement on admission procedures adopted by the Association. The Executive Council, therefore, at the 68th Annual Meeting of the Association at Atlantic City instructed the Committee on Educational Research and Services to republish these traffic rules. The Committee was requested, also, to review the steps that led to the

present agreement.

In order to protect the best interests of both the applicants and the medical schools without unnecessarily restricting the freedom of either, the Executive Council instructed the former Committee on Student Personnel Practices and its successor, the Committee on Teaching Institutes and Special Studies, to study the complicated matter of admission procedures and to devise appropriate provisions.

The Executive Council, reflecting the widely held views of the member colleges, had been concerned for many years about the undesirable pressures exerted by a few medical schools upon their applicants. Thus, at the meeting of the Council in November of 1949, it was the consensus that medical colleges should not select students more than one year in advance of their actual matriculation, i.e., more than one year before the start of professional study. Similarly, in Chicago two years later, the Council went on record as recommending strongly against issuing acceptances, even provisional acceptances, more than one year prior to actual matriculation. In 1952, the Council again recorded its disapproval of the practice of offering definite acceptances and requiring substantial reservation fees prior to the January 1 preceding entrance to medical school. In October 1953 at Atlantic City, the membership of the Association supported without dissent the Executive Council's recommendation that no acceptances be offered more than one year in advance of actual matriculation. Finally, to give substance to these repeated recommendations, the present procedures were adopted almost unanimously at French Lick. They operate fairly only when applicants as well as schools adhere strictly to their spirit. This point was emphasized at Colorado Springs at the 67th Annual Meeting of the Association, and again at Atlantic City at the 68th Annual Meeting. The so-called traffic rules are reproduced below as printed in the proceedings of the 65th Annual Meeting (Journal of Medical Education for December 1954, Vol. 29, No. 12, pp 73-74).

"Whereas, date of final acceptance of the applications of new students with the filing of a nonrefundable deposit varies widely among member institutions of the Association.

"Whereas, variation in acceptance date makes it very difficult for the average student applying to four or more medical schools to make sure that he is making the best choice of schools available to him.

"Whereas, this matter has been carefully studied by the Committee on Teaching Institutes and Special Studies and its recommendations have had further study by the Executive Council, be it therefore,

"Resolved that the membership of the Association of American Medical Colleges approves the following admission procedures:

"1 No place in the freshman class shall be offered to an applicant more than one year before the actual start of instruction for that class.

"2 Following the receipt of an offer of a place in the freshman class, a student shall be allowed at least two weeks in which to make a written reply to the medical school.

"3 Prior to January 15, this written reply may be either a declaration of intent or a formal acceptance of the place offered. When the applicant has declared his continued interest within the two-week period, the medical school agrees to hold a place for him until January 15, unless he indicates that he has been accepted elsewhere and withdraws his application. He may, of course, and often will enter into formal arrangements with the one medical school of his choice before January 15. Because of the wide variation in the acceptance dates of different medical schools, some students will wish to change their minds after filing a declaration of intent, and it is understood that nothing unethical is implied when a student does so change his mind. In such an event, the student is obligated to send prompt written notification to every school holding a place for him.

"4 The payment of a nonrefundable deposit shall not be required of any application prior to January 15.

"5 When a student files a declaration of intent, a refundable deposit—not to exceed $100—may be required at the discretion of the school granting the acceptance. Such deposits will be refunded without question upon request made prior to January 15.

"6 The deposit, when required to hold a place in the freshman class after January 15, shall not exceed $100.

"7 By January 15 each applicant for whom a place in the entering class is being held must either accept the offer formally and pay any required nonre-

fundable deposit or withdraw his application.

"8 Following January 15, an applicant offered a place in a freshman class must either formally accept or refuse the place, but he shall have at least two weeks in which to decide. Deposits made after January 15 shall be nonrefundable.

"9 To assist the medical schools, the AAMC office will compile a list of the students who have formally accepted a place in the freshman class. This list will be distributed about February 1 and will be kept current by frequent revisions."

Reports to Undergraduate Colleges. There has been no change in this program during the past year. Reports are issued to undergraduate colleges concerning the distribution of ability as measured by the MCAT performance of their students who apply for entrance to medical schools, the success of their former students in gaining admission to medical schools, and the success in medical school of those who enter as measured by regularity of progress and grades. Each year, as these reports are issued, the volume of acknowledgments expressing interest and gratitude to the Committee for issuing them reaffirms the desirability of continuing this service.

Applicant Information. The 1956-57 applicant study is scheduled for publication in the January 1957 issue of the *Journal of Medical Education*. No unpredicted changes of significance in the number of applicants has occurred, and the evidence indicates that the increase will be rapid in the years ahead. The 1955 increase of 400 became in 1956, 1,000. It is expected that the 1957 applicant population will show an equally great proportionate increase. There is little question that the need to streamline application procedures to permit handling larger numbers of applicants is upon us.

Research Services. Requests for data to aid in undergraduate college, medical school, national agency, and statewide research projects continue to be received by Dr. Gee. An increasing number of undergraduate colleges and state and national agencies appear to be launching investigations in which the information in AAMC records would be useful. Requests involving negligible expenditures of staff and/or IBM time are met by Dr. Gee routinely; major projects are referred to the Committee for approval. Agencies other than medical schools are asked to bear the cost of producing reports that involve substantial use of staff time and facilities.

Currently, major projects under way are being sponsored by the Cancer Research Institute and Harvard College. It is the policy of the Committee to assist approved research projects whenever it is possible to do so without interfering with regular work. The current backlog of requests is such that it is not possible to meet new requests for several months.

Research Development. The Committee's program of research on the characteristics of medical students, established in 1956 and outlined in detail in the 1956 report, is making rapid progress.

A study of the relationship between performance in medical school and amount of undergraduate education prior to entrance to medical school, has been completed and is being prepared for publication. In brief, the results of this study indicate that nearly all the variation in grades that appears to be associated with amount of undergraduate education can, in fact, be attributed to variations in ability as measured by the Medical College Admission Test.

A second study nearing completion involves an analysis of the complete history of the 1952 freshman class. A wide variety of breakdowns have been employed to study relationships between various progress classifications, failures and drop-outs, on the one hand, and characteristics of schools, age, sex and ability, on the other. Both of these studies will be submitted for publication to the *Journal of Medical Education*.

During the past year, a large proportion of time allotted to research on personality and interest measurement has necessarily been spent in initial data-processing activity such as test scoring, collating information on individual students from a variety of sources, transforming data from one form to another that is better suited for statistical analysis, and even in extending published statistical tables for use with odd sample sizes. Additional test data were collected at 12 schools to augment the size of samples of students who anticipate entering various specialties and to provide information concerning the degree to which successive classes of students in a single school resemble one another.

Students tested as seniors in the spring of 1956 were followed up in the spring of 1957. Ninety-seven per cent of these young physicians replied to our inquiry requesting information about their plans

for additional study and practice. Such a high rate of return—rare in the case of an inquiry made by mail—is gratifying indeed.

The complexity and the technical nature of this research preclude the presentation of results in the present report. One may, however, sketch the general outline of the studies that are planned or are already in progress, adding notes on the potential utility of the results of these kinds of investigations.

1. Work in progress. Studies are being made of the nature and extent of variation of measurable personal characteristics of men now entering the medical profession. Interest, ability and personality test data are being studied in three contexts:

(A) Comparison with other groups: How do the characteristics of freshman and senior medical students, as groups, compare with those of other college students, and with those of men in other professions and occupations? What characteristics do they share in common and how do they differ? The kinds of comparisons that can be made are, of course, limited by the availability of information on which to base comparisons. Published normative data on the Edwards and Allport-Vernon-Lindzey tests permit immediate comparisons of medical student characteristics measured by these tests with those of college student groups. The scores on the Strong inventory provide direct comparisons of the degree to which the interests of our medical student groups resemble the interests of men who are considered "successful" in 45 professions and occupations, including the medical profession. Studies in progress at the Institute of Higher Education at the University of California will make available further comparative data.

The ultimate implications of these comparisons will of necessity be speculative until such time as we are able satisfactorily to identify the "good" *vs.* "poor" representative of the medical profession. Nevertheless, it is possible on the basis of data such as these to determine whether present-day education is producing men representative of a broad or narrow range of personal characteristics and whether these people are strongly representative of particular segments of our national culture. The distribution of socio-economic status and educational level of parents of medical students differ considerably from those found in the general population — or even in the college population at large. The question is whether distributions of personal characteristics differ also. It will be possible to examine, on logical grounds at least, the relationships between trends in demands for types of medical service and the potential supply of physicians who, as indicated by their interest and personality characteristics, are likely to provide such services.

(B) Comparisons between schools: It is known that average ability levels as measured by the MCAT vary considerably from school to school. Do patterns of interest and personality characteristics vary similarly? We wish to determine whether schools can be grouped in terms of student characteristics. The question is complex—it involves study of the effects of the specific environment of a school on student characteristics and of the relationship between patterns of characteristics and environmental factors as these are in turn related to performance. It is believed that a sound contribution toward understanding of the complexity of these relationships can be made by studying simultaneously the within- and between-school relationships of student characteristics to student performance. If it is found that schools do form stable, distinctive clusters, it will be possible to investigate the relative success in medical school of students who fit and of those who deviate from the established cluster norms.

(C) Comparisons among groups of students planning to enter various types of medical practice: Studies of these relationships are of potential value for the selection of students in that, armed with factual information about the patterns of characteristics of students who are likely to choose various types of careers within the profession, admission committees can more or less deliberately diversify or unify their student groups in terms of the kinds of education they are best equipped to provide. Ultimately, it should be possible at a national level to provide information that will help to maintain a favorable balance between society's demands for types of service and the supply of physicians who will be motivated toward providing the kinds of services demanded. In the interest of the medical student himself, these kinds of data can be of real value for in-school vocational counseling. Should student X plan for a career in general practice, teaching and research, or specialty practice—and, if a specialty, which one? Test

data are potentially valuable tools for assisting students toward making such decisions, but only if the tools are themselves sound and enough is known about them to use them effectively. The Association is in a strong position to study the tools and to guide individual medical schools in their use.

(D) A study of the interrelationships of test scores to select from among them a much smaller number of measures that can be used in later follow-up studies is in progress. Seventy-nine test scores are available for tested 1956 freshmen. The actual number of variables needed to discriminate effectively among various groups of students (*e.g.*, high *vs.* low achievement in school, the potential teacher-researcher *vs.* the general practitioner *vs.* the practicing specialist in each of a variety of fields, etc.) is not known, but it can be determined by statistical analysis. Furthermore, study of the interrelationships of these measures of interest, personality and intellectual characteristics will in itself constitute a potentially significant contribution to the science of measurement of human behavior, quite independent of its practical importance to problems of selection and guidance of medical students.

(E) The Edwards Personal Preference Schedule was administered to students taking the MCAT in 1957. These data will contribute to the study of current selection processes and their implications for the future of medicine as it is affected by the characteristics of those who enter the profession. In addition, by special handling of test administrations, any effects on scores on these tests occasioned by pressure to appear in a favorable light for selection for admission can be determined. These data, like the 1956 freshman data, can be used in analysis through extended follow-up studies of progress through selection, training and professional practice.

2. Planned and proposed studies. (a) A study of the use of various methods of scoring personality tests. This study is important for developing techniques of using test data in counseling medical students and also for the investigation of methods of predicting achievement both in school and in various types of careers within the profession of medicine.

(b) In the spring of 1958, the freshmen tested in the fall of 1956 will complete their second year in medical school. An intensive investigation of intermediate criteria of student performance should be made at that time. It would be desirable, for example, if all freshmen in the test sample were to take the National Board Examinations in 1958 so that the same objective data on achievement for all students could be analyzed. Other kinds of information, such as student ratings of fellow students and faculty ratings of students, as well as grades, would also be desirable. If the studies that have been launched are to have real value, careful follow-up observations of student performance both in school and beyond are essential.

The current program of research on student characteristics is being financed primarily by a grant from the Commonwealth Fund. A grant from the Markle Foundation, made to the Association in 1953, is also contributing to the support of the research program during the present year. To carry the program forward, however, will require new and long-term financing. GEORGE PACKER BERRY, M.D., *chairman, Committee on Educational Research and Services;* HELEN HOYER GEE, Ph.D., *Director of Research.*

REPORT OF THE COMMITTEE ON AUDIO-VISUAL EDUCATION AND MEDICAL AUDIO-VISUAL INSTITUTE

The Committee held its regular annual meeting at the time of the Annual Meeting of the Association of American Medical Colleges. The Committee concerns itself with the provision of audio-visual services and professional assistance as executed by the Medical Audio-Visual Institute. During 1956-57 the activities of the Institute were as follows:

Film Library Activities. In keeping with policy only those films were acquired which are suitable for undergraduate medical education and which are difficult or impossible for the medical schools to procure elsewhere. Twenty-nine new titles and 365 new prints were added to the library, making a total of 97 titles now in the library. These titles are all available for rental and some are available for purchase.

During the year 307 prints were sold. These are films that are available only from MAVI.

Total film purchases cost $7,457 and total income from sales and rentals amounted to $8,128. By and large the finished films that were purchased only for rental purposes were provided by the Pfizer Laboratories grant. Films which MAVI has helped to produce, finish or finance were paid for from the Film Publications Revolving Fund.

The Pfizer Laboratories grant balance at the end of the fiscal year was $4,776. The balance in the revolving fund was $2,776. The total film assets at the end of the fiscal year were $7,552 plus 289 prints of films in inventory worth about an equal amount.

Film Production. The Institute is completing the production of the teaching films on Living Human Cells in Culture made possible by the three-year total grant of $30,000 from Abbott Laboratories, and the assistance of Dr. C. M. Pomerat of the Tissue Culture Laboratory at the University of Texas-Medical Branch and Dr. I. Costero of Mexico City. Five films have been completed bearing the following titles:

THE HELA CELL STRAIN
MICROGLIA
OLIGODENDROGLIA
NORMAL ASTROCYTES
ABNORMAL ASTROCYTES

By the end of the last fiscal year 200 prints of the first three titles had been sold.

Prototype Teaching Area. Progress has been made on the Prototype Teaching Suite intended for installation at the University of Kansas Medical Center. Details of the Suite have been drawn and an architectural model completed through the courtesy of Darell Boyd Harmon and Associates, architectural consultants of Austin, Texas.

Dr. Harmon has committed materials on behalf of his clients for the construction of the suite. Illness has forced Dr. Harmon to withdraw from his business with a resultant loss of his clients. While some manufacturers still stand ready to supply materials some are justifiably unwilling to subsidize the cost of meeting specifications. Between $30,000 to $50,000 would be required to realize actual construction. This estimated figure excludes the cost of deconstruction of present interior and the value of the space as would be borne by the University of Kansas School of Medicine.

As a research study into the problems of medical education this project is a worthy one. Some foundation or organization interested in medical education should be given the opportunity to support it.

Audiovisual News. *Journal of MEDICAL EDUCATION.* The AV news section in the Journal has been maintained. It contains news items, film reviews, and articles selected to stimulate better and wider use of audio-visual materials.

Cooperative Audio-Visual Activities. The director of MAVI has represented the Association of American Medical Colleges in the following national activities:

Chairman: Audio-Visual Conference of Medical and Allied Sciences
Judge: Motion Picture Program of the Clinical Congress, American College of Surgeons
Instructor: First Medical Motion Picture Workshop, Veterans Administration and the Calvin Company
Panel Member: Special Section on Communications, Annual Meeting, American Medical Association
Chairman, Medical Category: American Film Assembly and Golden Reel Film Festival
Member: Committee on Physical and Mental Health Film
Speaker: International Photographic Exposition
Chairman: Cooperative Medical Film Agencies (Supplying data to Library of Congress on medical films)

The Future of MAVI. The Medical Audio-Visual Institute has played a unique and positive role, both within the Association and as an influence on related organizations. It has been a stimulant to medical schools and medical teachers and has provided ideological security to other associations concerned with the special problems surrounding the use of audio-visual materials and equipment.

The Medical Audio-Visual Institute is a national voice representing the production and utilization of medical undergraduate AV teaching materials. Medical schools are developing techniques and administrative units for better and more economical use of these materials. Some schools have made spectacular progress —a development which has been stimulated not only by a general increase in concern with the problems of teaching and learning, but also by specific encouragement and aid from the Medical Audio-Visual Institute.

If the Institute is to show continued progress, it is our opinion that additional support, preferably on a long-term basis, is essential. As an alternative, serious consideration must be given to a program leading to drastic reorganization of the Institute and the services which it is to render. WALTER A. BLOEDORN, *chairman of committee;* J. EDWIN FOSTER, *Director of MAVI.*

Following the report of the Director of the Audio-Visual Institute, Dr. Youmans announced that Dr. Foster was leaving the Association to join the staff of the American Heart Association. A motion was unanimously passed, expressing deep appreciation to Dr. Foster for his many years of effective service and wishing him well in his new position.

REPORT ON HUNGARIAN REFUGEES

(Report of the Emergency Program for the Placement of Escapee Hungarian Medical Students in American Medical Schools by the Association of American Medical Colleges, Institute for International Education, World University Service, National Committee for Resettlement of Foreign Physicians, Inc.)

Hungarian college students entered this country in large numbers during and after the Revolution in October 1956. To enable those who were qualified to continue their education in this country, the World University Service and the Institute of International Education established a placement program. Through their efforts most of the undergraduate students have been placed in American universities. The graduate students, and most particularly the medical students, posed a much greater problem. In order to aid the medical students, the Association of American Medical Colleges and the National Committee for the Resettlement of Foreign Physicians, Inc., joined with the World University Service and the Institute of International Education in starting an emergency placement program.

With very little available information on the academic background of the students it was decided that it would be necessary to give screening examinations before any placement program could be effective. Screening Boards were established at Cornell Medical College, Northwestern University Medical School, and the University of California School of Medicine in San Francisco. Each student was assigned, on a geographical basis, to one of the Screening Boards. The examinations were held in June 1957, and were conducted by experienced examiners in the basic sciences and clinical fields. Dossiers, including transcripts in most cases, were made available to the examiners.

Thirty-seven students took the examinations. Twenty-six passed with both academic achievement and English proficiency, and were considered suitable for acceptance in one of the first three years in an American medical school. Many of the failures, which numbered eleven, were not passed because of poor English.

Thirty-six member schools of the Association of American Medical Colleges had indicated that they would consider one or more students for admission. The students were then assigned by lot, on a geographical basis, to one of these schools. The student's dossier and transcripts were forwarded to the schools, along with a report of the Screening Board. In each case a tentative class assignment was suggested. However, neither the reports of the Screening Board nor the class assignments were considered as any commitment on the part of the schools, because it was felt that these were more properly the prerogatives of the schools themselves.

At the date of this report, 19 of the students who passed the screening examinations have been admitted to medical school; 10 of these were accepted in the first year class, six in the second year class, and three in the third year class. One student who passed the examinations was accepted as an audit student. One student who failed the screening examinations because of lack of facility in English was finally admitted to second year standing; another who failed for the same reason was admitted as an audit student in the first year. In both these cases, if the student's record is satisfactory they will be accepted in 1958 as regular students.

Of the six students who passed the screening examinations, but failed to be admitted, one possibly may be admitted in February 1958. Two are employed in medical laboratories and are being considered for admission in 1958. One is undergoing extensive plastic surgery for wounds received during the Revolution, and he expects to enter premedical studies in February 1958, and probably will be admitted to medical school in the fall of 1958. The two remaining students were refused admission and we have been unable to communicate with them since. One additional student was admitted to medical school without reference to the screening examination. There might possibly be others in this category. (See Tables I and II for details.)

Each of the students, except one, has received an allotment of funds varying in amounts from $200 to $2,000 for maintenance and/or tuition. The funds will be disbursed by the school authorities.

Each student has been judged on his

merits and although there are humanitarian and political overtones in the program, in the final analysis it is the professional community of this country that will stand to gain by its implementation.

Many problems still remain to be solved. One, how to finance the students, who were admitted this year, during the rest of their years in school. Also, a number of those who failed to be admitted will probably be accepted in 1958, and will need support. Another 400 Hungarian students in Yugoslavia still await admission to the United States. Possibly 15 to 20 medical students will enter with this group. What we will be faced with if other Middle European countries defect from Communism cannot be determined. All of these problems will have to be met by the independent agencies, or possibly by the government itself. In a great measure the possibility of any future projects for refugee medical students will depend on the record of the students admitted this year.

Funds for scholarships, hospitality and administration have been provided by the following:

Commonwealth Fund
First Aid for Hungary
Free Europe Committee
Inland Steel
International Rescue Committee
International Telephone & Telegraph
Kellogg Foundation
Milbank Foundation
Moses Foundation
Alfred P. Sloan Foundation
Miscellaneous

Funds for the language training program have been provided by the following:

Ford Foundation
Rockefeller Brothers Fund
Rockefeller Foundation

Special mention should be made of the contributions made by the following individuals:

Association of American Medical Colleges
Dr. Dean F. Smiley

Institute of International Education
Mr. Richard Raymond
Miss Ann Bollman

World University Service
Mr. Wilmer J. Kitchen
Dr. Richard Carlton

The National Committee for Resettlement of Foreign Physicians
Mrs. Laura Rubin

Chairmen or Screening Boards
University of California School of Medicine
Dr. Malcolm Watts
Cornell University Medical College
Dr. Dayton Edwards
Northwestern University Medical School
Dr. John Cooper

ROBERT BOCOS, chairman

SUMMARY

TABLE I

Students examined by Screening Boards	37
Passed	26
Failed	11
Passed—Accepted	19
First Year	10
Second Year	6
Third Year	3
Passed—Accepted (First year Audit)	1
Passed—Not accepted 1957	6
Failed—Accepted (Second year)	1
Failed—Accepted (First year Audit)	1

TABLE II

ACCEPTANCES BY SCHOOL AND YEAR

Medical School	First Year	Second Year	Third Year	Total
Albany	—	1	—	1
California	—	—	1	1
Cornell	1	1	—	2
Creighton	2	—	—	2
George Washington	1	1	—	2
Maryland	—	1	—	1
Michigan	—	—	1	1
New York State—Syracuse	—	1	—	1
New York University	2	—	—	2
Northwestern	—	—	1	1
Pennsylvania	1	—	—	1
Pittsburgh	—	1	—	1
Rochester	1	—	—	1
Stanford	1	—	—	1
St. Louis	1	—	—	1
Vermont	2 (Audit)	—	—	2
Virginia, Univ. of	—	1	—	1
	—	—	—	—
	12	7	3	22

REPORT OF NOMINATING COMMITTEE

The Committee placed in nomination the following individuals for the offices corresponding:

President-elect: Dr. John McK. Mitchell, Pennsylvania;

Vice President: Dr. Joseph Wearn, Western Reserve;

Treasurer: Dr. Stockton Kimball, Buffalo;

Secretary: Dr. Richard Young, Northwestern

Executive Council:

Term expiring in 1960: Dr. Stanley Olson, Baylor; Dr. Thomas Hunter, U. of Virginia

Term expiring in 1959: Dr. Mark Everett, Oklahoma; Dr. Gordon Scott, Wayne State

J. MURRAY KINSMAN, chairman

The report of the Committee was accepted and the nominees elected by unanimous ballot.

REPORT OF THE COMMITTEE ON CONTINUATION EDUCATION

During the past year the Council on Medical Education and Hospitals of the American Medical Association published with the approval of the House of Delegates a "Guide Regarding Objectives and Basic Principles of Postgraduate Medical Education Programs." The guide is an important beginning in bringing order to a most complex area.

The Committee is impressed with the massiveness of the problems in continuation education. Although the need for increasing activity of this field is unanimously agreed upon, the direction of activity is uncertain, the desire of the physician is only imperfectly appraised, the responsibility of schools of medicine is not universally admitted and the effectiveness of any particular educational mechanism is totally unknown.

The Committee continues to expect that the factor of major significance is the establishment of that environment in the daily activity of the physician which

will support the physician's freedom in the increasing development of his intellectual self-discipline. The role of full-time clinicians as a nucleus for educational leadership within the hospitals is still considered as a critical contribution to this support.

The present environment of the practitioner is so imperfectly known that the Committee urges the Executive Council of the Association to consider an intensive and extended study of the ecology of American medical practice. JAMES W. COLBERT, JR., *chairman.*

REPORT OF THE CHAIRMAN OF THE EDITORIAL BOARD

The resignation of Dean Smiley, M.D. recalls the valuable contribution that he made as Editor of this *Journal.* He was devoted to all aspects of the program and the growing importance of the *Journal* is a tribute to his work.

On October 20, the Editorial Board will convene to review past achievements and chart a course for future accomplishments. The Chairman of the Editorial Board will also serve as Editor of the *Journal* until decisions are made regarding the most desirable organization of the program.

Under this new arrangement the *Editorial Offices* will be located at *"Journal of Medical Education," University Hospitals, Madison, Wisconsin.* All communications regarding manuscripts and medical school news should be transmitted to this address. The *Publications Office* will continue to operate at the headquarters of the Association.

Manuscripts. The manuscripts have continued to be the main point of focus for the Editorial Board. Many of the manuscripts have been solicited from medical educators in the United States and other countries. There is a continuing need for manuscripts describing developments in medical education in the United States. Articles describing educational experiments in progress would be valuable in keeping the readers of the Journal informed on current developments.

The first series of papers on the History of Medical Education has been published. Professor Frederick Norwood has agreed to supervise the development of a second series of profiles of distinguished individuals in the growth of medical education in the United States.

The special numbers of the *Journal* during the past year have included the study by Osler Peterson on medical practice in North Carolina, the Applicant Study for 1955-56, and the Report of the Teaching Institute on The Appraisal of Applicants to Medical Schools. A special supplement in Spanish for medical educators in Latin America is in press.

The financial support of the China Medical Board has made possible the distribution of the *Journal* to medical schools in other countries.

A generous grant from the Josiah Macy Foundation has supported the publication of a number of significant articles on medical education in other countries. This grant has also financed the preparation of the special number for Latin American medical educators and Spanish abstracts of all articles in the *Journal.*

News and Announcements.

The desirability of communicating news of developments in our member institutions is recognized by all readers of the *Journal.* Deans, their public relations officers and faculty members are urged to transmit more information of this nature. An effort will be made to keep our readers more fully informed on programs of Federal agencies and philanthropic foundations as they are of interest to medical educators.

A full report of the meeting of the Editorial Board will be published in an early number of the *Journal.*

Finally, the Chairman would like to express his deep gratitude to the members of the Editorial Board for their work with the *Journal.* A number of other medical educators have been helpful in reviewing manuscripts submitted for publication. JOHN Z. BOWERS, *chairman.*

SUPPLEMENTAL REPORT OF THE EDITORIAL BOARD

The Editorial Board of the Journal of Medical Education met at the Hotel Chalfonte in Atlantic City on Sunday, October 20, 1957. All members of the Board except Dr. Julius Comroe were present. Dr. Ward Darley, Executive Director of the A.A.M.C. and Dr. Frederick Norwood, Consultant on the History of Medical Education, attended the meeting.

Book Reviews. Dr. Kenneth Penrod agreed to serve as Book Review Editor. The Board adopted a program in which only books dealing directly with problems of medical education will be critically reviewed. Publications which would

be useful as teaching instruments will be commented upon. Other books will be listed.

Membership of the Board. A system of rotation whereby members of the Board would serve for designated periods was recommended.

Format. The front cover will list titles, authors and pages of papers. Other sections—News from the Medical Schools, Items of Current Interest, Book Reviews, Personnel Exchange and Editorials would be listed on the front cover with page references. Other indexing will be discontinued.

The section entitled "With our Authors" will be discontinued. The faculty affiliation of the author will be carried as a footnote with the article.

Information on the organization of the Association, the organization of the Journal and instructions for authors will be carried on a single page in a standard location in the Journal.

Bibliography will be standardized in line with the Quarterly Cumulative Index.

Manuscripts, editorials and book reviews will be paginated with Arabic numbers. All other material will be designated by Roman numerals. Supplements will be paginated consecutively with the related numbers of the Journal.

A section will be established as "News from the Medical Schools." Another section will be established as "Items of Current Interest."

"Audio-visual News" will be discontinued as a separate section and carried under one of the above sections. Dr. Penrod proposed an annual number emphasizing developments in audio-visual education.

Abstracts of Papers for Annual Meeting. Dr. Hale Ham proposed that a call for abstracts of experiments in medical education should be issued at the time of the Annual Meeting. The abstracts would be published and indexed in the Journal. The Board was enthusiastic about this proposal. Dr. Ham will discuss it's development with Dr. Lowell Coggeshall, President of the A.A.M.C.

Supplements. Dr. Vernon Lippard agreed to assume the responsibility for this aspect of the program. Topics suggested included Medical Care, Architecture of Medical Buildings, Development and Operation of an Animal Colony, Administration of Teaching Hospitals, Patient Contacts by Freshmen Students, Research by Medical Students, Free Time, Examination Systems and Changing Patterns of Premedical Education.

History of Medical Education. Dr. Norwood reported on progress in this department. The first series is nearly complete and the second series will document the lives of individuals who are outstanding in the development of U. S. medical education. Dr. Norwood proposed an anthology of the history of medical education and this was promptly adopted by the Board.

Subscriptions. The Board suggested that medical faculty members should be canvassed regarding subscriptions to the Journal. It was felt that a subscription to the Journal with membership in the A.A.M.C. might be more attractive than to emphasize membership in the A.A.M.C.

The Board will meet in Chicago at the time of the Annual Congress on Medical Education and Licensure. JOHN Z. BOWERS, *Editor-in-Chief.*

REPORT OF THE COMMITTEE ON FINANCING MEDICAL EDUCATION

August 20, 1957

The Committee is composed of Doctors Donald G. Anderson, Walter A. Bloedorn, L. T. Coggeshall, Harold S. Diehl, Stanley E. Dorst, Vernon W. Lippard, Robert A. Moore, Norman Topping, John B. Youmans and Joseph C. Hinsey, *Chairman.* Dr. Ward Darley and Dr. Dean F. Smiley have been considered ex-officio members of this committee.

The Committee met on February 9, 1957 in Chicago and the chairman has been in touch with the members of the Committee regarding problems that have arisen during the year. Because of the fact that it is necessary for this report to be prepared so far in advance of the meetings, it will not be possible for it to be up to date. The Committee will meet just before the meetings in Atlantic City and will be prepared to submit any additional information developed at that time to the open hearings in Atlantic City.

The work with the National Fund has progressed satisfactorily and the National Medical Education Week has been thought to be quite successful this past year. Each school has been kept informed regarding the activities of the National Fund for Medical Education and for that reason we shall not incorporate any of

the details in this report. Needless to say, the chairman of this Committee has been called on many times during the year to work with the staff of the National Fund.

During the year, discussions have been held with the officers and administration of the National Foundation for Infantile Paralysis, the American Heart Association, and the American Cancer Society regarding the possibility of the voluntary foundations contributing to the basic support of the work of the medical schools. These discussions have been carried on in a satisfactory manner. Although no definite decision has been arrived at, a real understanding of our problem has been brought to the attention of these organizations.

Your Committee has made every effort to get the percentage available for indirect costs from Federal grants raised from 15 per cent to 25 per cent. Doctors Coggeshall and Hinsey appeared before Senator Hill's committee on May 6, 1957. Dr. Coggeshall presented a prepared statement before the Senate Appropriations Committee, copies of which have been made available to the deans. I quote from the report I made to the COMMITTEE ON FINANCING MEDICAL EDUCATION on July 1, 1957, regarding the action taken and what the present status of this report is:

(The following quotation is from *Gross's Washington Report* on the Medical Sciences of July 1, 1957)

> "Senate conferees, headed by Alabama's Lister Hill, were unable to talk House conferees into dropping a clause which forbids NIH from allowing grantees more than 15 per cent toward helping defray overhead expenses. In the short run, this may be rather a serious blow to institutions which go deeper into the red with every research project they undertake; but the Congressional and General Accounting Office inquiries into research costs soon to be launched could easily lead to more substantial financial assistance to training and research institutions.
>
> "The House conferees, whose leader and spokesman is Rep. John E. Fogarty (D., RI), are not so much opposed to increasing the 15 per cent allowance as they are determined to turn a strong light on the expense items that go into that overhead. They don't want indirect costs, such as sidewalk repairs, charged against research.
>
> "The Senate conferees, in contrast, are more tolerant to inclusion of indirect costs. The study which they have requested General Accounting Office to perform is to be completed by end of this year. House is planning to conduct its own separate investigation."

Every dean should have a copy of the NATIONAL SCIENCE FOUNDATION BULLETIN, entitled: "Reviews of Data on Research and Development, No. 2, March, 1957." This presents the findings under a title "Funds for Research and Development in Colleges and Universities, 1953-54." This should be read by every dean of a medical school and studied very thoroughly because it shows what the research we do costs us for the indirect expenses.

The legislation which has been introduced at this session may be summarized briefly as follows:

(1) H.R. 6602, which is a bill introduced on April 3, 1957, by Mr. Dorn, of New York, to provide for the establishment of a commission to study the shortage of doctors of medicine in the United States.

(2) Bill S. 1922, introduced by Senator Hill, and Senators Kennedy, Neely, Humphrey, and Smathers, on April 18, 1957, to authorize a five year program of grants for construction of medical and dental educational and research facilities and for other purposes. The companion bill in the House of Representatives is number H.R. 7841 and it was introduced by Mr. Fogarty on May 29, 1957. This is the bill which Senator Hill introduced in the previous session of Congress.

(3) Bill S. 1917, introduced on April 17, 1957 by Senator Smith of New Jersey for himself and for Senator Purtell of Connecticut.

The bill is the administration bill to amend the provisions of the Public Health Service Act relating to grants for construction of research facilities so as to increase their duration from three to five years and to authorize grants for medical and dental teaching facilities.

There is no question but what the spirit of economy has dominated a great deal of the thinking in our present Congress. It seems to me that our position

should be not to take sides on any of the present legislation but to continue to present our great needs. We are most fortunate that the Committee on Interstate and Foreign Commerce released the staff report on March 14, 1957, which contains the background information relating to schools of medicine, dentistry, osteopathy, and public health. We are deeply indebted to Mr. Kurt Borchardt who is the legal counsel for this committee for the tremendous amount of most careful work and thought that he gave to this whole problem. This report is a veritable storehouse of important information and should be in the hands of every dean and his staff.

We are grateful for the work that has been done by the members of the staff of our medical schools in response to the letter of April 15, 1957, addressed to the deans of the medical schools over the signature of Dr. Ward Darley. In this he has pled for contacting the members of Congress from the areas where our medical schools are located and to inform them of the needs and to elicit their support for legislation for medical school construction. The members of the staff of the Association, as well as the members of our Committee have done a great deal of work in establishing contacts and presenting the needs to the members of Congress. This should be continued during the coming year. In presenting the needs, it seems important to make a plea for multiple support of our medical schools. If the corporations of this country would up the amount they contribute to the National Fund, a great good could come. If the states that now do not support medical education would start to provide funds, as well as if greater support could come from a number of our states, our medical schools would be greatly benefited. We need to accelerate and intensify the presentation of our problems to the various foundations over the country. Certainly, the members of the state legislatures must realize the importance of health education and its costs and, of course, many private individuals of means could do a great deal of good by contributing to various medical schools. All of us should strive to emphasize a continued need today and our future needs, and that we hope to keep the support of medical education on as broad a base from as many sources as it is possible to do. The Federal government is not the only source of this support and we should not lose sight of our other benefactors. Certainly during this past year a great deal has come to the medical schools of this country through grants like those to the private medical schools from the Ford Foundation, the ones made by the Commonwealth Fund to certain of our schools and, of course, various states have upped the support that they have given to medical schools.

Your chairman has just returned from Washington where he discussed the present status of legislation with Mr. John R. McKenzie of the staff of Secretary Folsom, with Senator Hill and to a brief extent with Senators Ives, Purtell, Thurmond and Murray, and with Mr. Kurt Borchardt, who is the legal counsel for the staff of the Committee on Interstate and Foreign Commerce of the House of Representatives. We are most fortunate to have the support of all of these friends in government to whom we go for help and guidance. Special tribute should be paid to Secretary Marion Folsom and Dr. Aims McGuinness and their staff in the Department of Health, Education and Welfare. Mr. Oren Harris, Mr. John Bell Williams and the others in their Committee on Interstate and Foreign Commerce and their legal counsel, Mr. Kurt Borchardt, have shown great interest in understanding our problems. Over the years, Senator Lister Hill and the senators from both parties on his Committee on Labor and Public Welfare have helped us immeasurably and have had real insight into our problems. Our support has been bi-partisan. In the next session of Congress, if the House of Representatives will take the initiative in developing legislation for the support of the needs of medical education, for rehabilitation and new teaching facilities, we should meet with success. In all of our work on this legislation, it has been particularly gratifying to have the support of the American Medical Association, and the members of their staff have been helpful to us.

I want to strongly recommend to the committee for its consideration at its meeting in Atlantic City that we send letters of invitation to both Chairman Oren Harris, of the full Committee on Interstate and Foreign Commerce and to Representative John Bell Williams who is chairman of the Health Sub-Committee of this committee, to have the members of the committee make visits to a number of our institutions so that they can see first hand the needs for new facilities. I think it would be desirable to have this committee visit some of the

new institutions to see what modern facilities are like and then go to some of the institutions to see where the facilities are inadequate and out-dated in order that comparisons can be made. I believe that these visits should be arranged for some time during the fall and early winter and that every effort should be exerted to see that they are made. Certainly, if we invite the members of the committee we will have taken the initiative in this matter. The other members in addition to Representative Williams on the Health Sub-committee of the House Interstate and Foreign Commerce Committee are Democrats—Dies of Texas; Rhodes, of Pennsylvania; O'Brien of New York; Dingell, of Michigan; Loser, of Tennessee; and Republicans Heselton, of Massachusetts; Bush of Pennsylvania; Schenck, of Ohio; Carrigg, of Pennsylvania; and Neal of West Virginia. Representative Neal is a physician who was elected last fall after serving one previous term.

It will be important for some members in the respective states to contact Representatives John Tabor, of New York, and Clarence Cannon, of Missouri. The information which I received leads me to believe that it is very essential that these two men be talked to and convinced of the importance of our needs. Without their understanding, we will have great difficulty getting appropriations that we would like to see made through the House.

The senators that are largely concerned with legislation for health in the Committee on Labor and Public Welfare, are Senators Hill, of Alabama, McNamara, of Michigan; Murray of Montana; Purtell, of Connecticut and Cooper, of Kentucky.

We have been laboring under difficulties that have been brought forth by the economy wave in Congress, the concern of Federal aid to education and its impact upon our problems, and by the whole Civil Rights discussion. It is to be hoped that in the next session of Congress that it will be possible for us to gain consideration of our medical school construction legislation. We should hammer away at our needs and what the future will bring to the health of the nation if these needs are not met. At present, it doesn't seem advisable to get involved in any one of specific legislative proposals which have been made.

I want to express to the members of the Committee and to the members of the Association, as well as to the staff of the Central Headquarters, my sincere appreciation for the help which I have received in the work on Financing Medical Education during this past year. JOSEPH C. HINSEY, *chairman.*

P.S.—August 20, 1957

Yesterday, Secretary Marion B. Folsom, of Health, Education and Welfare announced the appointment of a group of consultants to make a study of medical research and education and their needs. They are being asked to investigate the relationship between governmental and private research, influence of increased research upon medical education, supply of teaching personnel, and other matters (Washington Report on the Medical Sciences, No. 531, August 19, 1957). Secretary Folsom has suggested that an interim report be presented within a year and a final report some six months later. The members of the group are as follows:

Chairman, Stanhope Bayne-Jones, who at the time of his retirement in 1953, was *President of the Joint Administrative Board of The New York Hospital-Cornell Medical Center.*

George P. Berry, *Dean, Harvard Medical School.*

Lowell T. Coggeshall, *Dean, University of Chicago School of Medicine.*

Stafford L. Warren, *Dean, University of California at Los Angeles Medical School.*

Fred C. Cole, *Vice-President, Tulane University.*

Irvine H. Page, *Director, Research Division, Cleveland Clinic Foundation.*

Thomas P. Carney, *Vice President, Eli Lilly Company.*

Samuel Lenher, *Vice President, E. I. du Pont de Nemours & Co.*

Robert C. Swain, *Chief of Research and Development, American Cyanamid Co.*

James E. Webb, *President, Republic Supply Co.*

It is to be hoped that medical educators will cooperate fully in the furnishing of information needed by this group of consultants. Certainly, it will not be a new experience in the light of the various surveys and studies that have been conducted in the past few years such as the Deitrick-Berson study, (1953), the report of the Magnuson Commission (1952), and the material assembled by the Ford Foundation about private med-

ical schools in 1956–57. I enclose a copy of a statement prepared for Secretary Folsom in 1955. There is a basic philosophy expressed here that is vital to the future of the nation's medical schools.

Statement prepared by Dr. Joseph C. Hinsey at the request of Dr. Palmer Dearing. This is an elaboration of certain points of view expressed at a conference held by Secretary Marion B. Folsom, of Health, Education and Welfare, with the Committee on Financing Medical Education of the Association of American Medical Colleges on Friday, November 18, 1955, in the Secretary's Office in Washington, D.C.

Each of the nation's 85 medical schools has responsibilities in three areas: medical (might be more appropriately called health) 1) education, 2) research and 3) service. In the majority of instances, it is extremely difficult to delineate absolutely these three activities. Many times, a clinical teacher carries on educational and research functions at the same time he renders patient care, i.e., to a patient with hypertension or with tuberculosis. It is fair to say that the quality of patient care is better because it is done in the presence of teaching and research. In a like manner the teaching under these circumstances is much more stimulating and the research profits much in such an environment. While generalizations should be made with care, many believe that teaching environments such as are present in our medical schools provide the most effective milieu for scientific advancement. Nobel prize winners such as Dr. Enders and his co-workers and Dr. du Vigneaud and his staff, work and teach in medical schools. Dr. Jonas Salk likewise is a member of a medical school faculty. A pathologist teaches students at the same time he does an autopsy. A teacher of anatomy who is interested in variations and anomalies, which are so important to the surgeon, may do research at the same time he supervises a student's dissection of a cadaver. These examples, which could be enlarged many fold, will illustrate how arbitrary one must be to separate one individual staff member's time in order to allocate it accurately to teaching, research and to patient care or medical service.

Just as such a separation is quite complicated on the functional side, so is it as far as the designation of the physical facilities. In most of our medical schools, the student laboratories are used for medical and other health science courses for several months of the year and, in the remaining months, they are used for research projects of the staff. Sometimes, these two activities are carried on simultaneously in the same quarters. Dr. Stanley Dorst, Dean of Medicine at the University of Cincinnati, described just this sort of utilization of their space in their department of pharmacology, and the same is true for the facilities in pharmacology at Cornell. Modern medical schools are so arranged that research laboratories and student laboratories occupy adjacent positions in the departments. Such is the case in the Physiology Building at Cornell where research facilities developed for special problems in fluid balance, neurophysiology and metabolism are used for student group teaching when the course is going full force and for graduate student teaching at other times in the year. Students become familiar and work with special apparatus that would be most difficult to provide out of medical school budgets, they are stimulated in the most modern methodology, and in some instances use these facilities for research of their own.

Most medical school staff members are researchers as well as teachers and demand proper research laboratories and facilities right in the medical schools. Dr. Lowell Coggeshall, Dean of Medicine at the University of Chicago, related the problems in his institution where a survey had shown the difficulties encountered in holding and attracting able young medical men into academic careers. These difficulties were not so much involved with salaries, which had been increased to better levels, but with the lack of adequate facilities to properly provide for their research needs.

It can be said unequivocally that a large volume of the medical research conducted in this country is being done in medical schools by staff members who teach and take care of patients as well. The rehabilitation of present plant and the enlargement thereto in the nation's medical schools constitutes the primary need that must be met before more physicians can be graduated and the nation's research can be upgraded and amplified. Such improvement would also contribute to an increase in the preparation of allied para-medical personnel and in graduate training for the basic medical sciences so essential to the teaching of our schools and to the advancement of research in medicine.

The medical schools are the "factories" that prepare all of our physicians and most of our graduate students in the basic medical sciences; they contribute to the education of dentists, nurses, and many allied medical personnel; they conduct the largest portion of the medical research; and they are responsible for a large volume of medical care and the maintenance of the quality thereof. Any program for the betterment of the nation's health must make provision for adequate plant and facilities to our 85 medical schools.

Joseph C. Hinsey, Director
The New York Hospital-Cornell Medical Center
Chairman, Committee on Financing Medical Education, Association of American Medical Colleges

Following the report of the Committee, Dr. Youmans presented the following resolution, which was adopted unanimously.

Whereas, it is generally recognized that the physical facilities for housing the educational programs of many of our medical schools are in great need of expansion and modernization beyond the present economic resources of these schools themselves and

Whereas, several members of the pres-

ent Congress are sponsoring legislation designed to aid these medical schools in their needs and

Whereas, we have been led to believe that some members of the Congress are not convinced that the proposed legislation has the interest of the entire membership of the Association of American Medical Colleges in spite of the diligent efforts of the officers of this Association and its Committee on Financing Medical Education in surveying the needs of the individual member schools and in transmitting information regarding these needs to congressional committees therefore

Be it resolved that the membership of The Association of American Medical Colleges in its 68th Annual Meeting go on official record as being in complete accord with the principle of Federal financial assistance in the construction of new, and the expansion and modernization of existing, facilities for medical education in our medical schools.

Be it further resolved that a report of this action be transmitted to each member of the Congress.

REPORT OF COMMITTEE ON INTERNATIONAL RELATIONS IN MEDICAL EDUCATION

The Committee exists to orient members of the Association to the responsibilities and opportunities involved in international relations in the field of medical education and to bring about understanding and exchange of ideas across national boundaries. The Committee, also, functions in an advisory capacity to the Executive Committee and the Executive Secretary of the Association. The Committee is concerned with (1) keeping under continuous scrutiny the problems involved in the exchange of students and faculty between the United States and other countries, (2) keeping in close touch with and to encourage exchange relationships between selected foreign medical schools and sister institutions of the United States and (3) giving special assistance to foreign students or teachers who are studying in the United States in preparation for returning to teaching at home. The principle concern, however, has been limited largely to the exchange of medical personnel at the advanced scholar level (research scholars, medical faculty members and lecturers) and to contractual programs between American and foreign medical schools.

I quote from the Committee report in 1956:

"There are three principle government-sponsored exchanges, the International Cooperation Administration of State Department, administered by the Division of International Health of Public Health Service, the Fulbright Program of 1946 and the Smith-Mundt Program, which in 1948 broadened exchange activities to include other kinds of grants and non-Fulbright countries. Two nongovernmental agencies through contractual agreements with the Department of State assist in the selecting and placing of the Fulbright and Smith-Mundt grantees, namely, the Committee on International Exchange of Persons of the Conference Board of Associated Research Councils (CIEP) and the Institute of International Education (IIE). The former organization deals only with senior scholars.

"In addition to the government exchange programs innumerable institutions and agencies have sponsored exchange programs of their own. Among these programs are the Rockefeller Foundation, the Kellogg Foundation, the Pan American Sanitary Bureau (PASB), Regional Office of the World Health Organization (WHO), Commonwealth Foundation, John Jay Whitney Foundation, Carnegie Foundation, Guggenheim Foundation, the China Medical Board and the Unitarian Service Committee. The picture is complex, and overlapping, eligibility, screening processes, selection methods, assignments, stipends, travel funds for local or international use, book allowances, medical expenses, etc. vary considerably. It has been said that foreign scholars now 'look for the agency giving the highest stipends and the greatest fringe benefits'."

For medical educators interested in the problem of exchange of medical schools and/or contractual agreements the following publications are easily obtainable:

"I.C.A Fact Sheet" (International Cooperation Administration)
Office of Public Reports, I.C.A.
Washington 25, D.C.

Information concerning the new system of I.C.A. contract procedures, which allows for "responsible stewardship of public funds in the achievement of a public purpose" and "permits sufficient delegation of authority to contractors to assure achievement of the educational

objectives of the program," can be obtained through:

Office on Institutional Projects
American Council on Education
1785 Massachusetts Avenue, N.W.
Washington 6, D.C.

Other aspects of contract relations between American medical schools and foreign medical schools are covered in:

University of California Medical Science Teaching in Indonesia, J. Med. Educ., 32:344-349, May 1957.

A new contract program initiated since last year has been made between the University of Indiana School of Medicine and Pakistan to establish a basic science institute at Karachi (Dean John D. Van Nuys, General Program Director).

The University of Iowa has, also, made a contract with I.C.A. to work with the University of Quito, Ecuador in making a survey of the teaching of basic sciences.

Publications concerning programs for foreign students at both the undergraduate and graduate levels have been mailed to all medical schools and can be had on request from the various agencies:

(1) "United States Medical Training for Foreign Students and Physicians"
Committee on Educational Interchange Policy
Institute of International Education
One East 67th Street
New York 21, New York

(2) "Open Doors 1957—A Report on International Exchange"
Institute of International Education
One East 67th Street
New York 21, New York

(3) Committee on International Exchange of Persons
Conference Board of Associated Research Councils
2101 Constitution Avenue, N.W.
Washington 25, D.C.

Mailed under date of December 31, 1956:

(a) Information for American universities wishing to invite a foreign scholar through the United States government's Educational Exchange Program.

(b) "Annual List of Visiting Scholars"—providing information regarding the nationality, field of study and location in the United States of scholars receiving United States government grants (1956-57 over 600).

(c) "Information for Visiting Scholars"—awarded grants under the Fulbright and Smith-Mundt Acts.

(4) "Quarterly Reports of Medical Education Information Center" (MEIC)
Pan American Sanitary Bureau
1501 New Hampshire Avenue, N.W.
Washington, D.C.

These reports cover activities of agencies in the field of medical education in the Pan American countries and list fellowship awards giving names, nationality, professional positions held, country of study, purpose and sponsoring agency (P.A.S.B., W.H.O., Kellogg, I.C.A., U.S.P.H.S., etc.).

(5) The new revised second edition of "Handbook on International Study" prepared by
The Institute of International Education
One East 67th Street
New York 21, New York
is to be released October 3, 1957 (price $3.00). This handbook will contain comprehensive information of interest to Americans going abroad to study and to nationals of other countries coming to the United States.

Progress of the joint efforts of the Federation of State Medical Boards of the United States, the American Hospital Association, the American Medical Association and the Association of American Medical Colleges to evolve a plan to evaluate individual foreign graduates can be followed in:

(1) Foreign Medical Schools and Students, *J.A.M.A.*, 161:1661-1664, August 25, 1957.

(2) Kinsman, J. Murray: Educational Council for Foreign Medical Graduates, Fed. Bull., 44:217-220, August 1957.
The group was incorporated under the laws of the State of Illinois on May 14, 1956. Dr. Dean F. Smiley will become full-time Director on or about October 1, 1957. The headquarters are to be established in Evanston, Illinois. The Educational Council function "is to evaluate individual foreign graduates and to supply information concerning this evaluation to state boards, hospitals or other agencies upon legitimate request."

The Association cooperated with the National Committee for Resettlement of Foreign Physicians, Inc. in screening of Hungarian medical student refugees. In New York Dayton Edwards, Secretary of the Faculty of Cornell Medical School, in Chicago John A. D. Cooper, Assistant Dean of Northwestern Medical School, and in San Francisco Malcolm

Watts, Assistant Dean of the University of California Medical School, did the actual evaluation of individual candidates.

The new series of articles in MEDICAL EDUCATION on medical education in foreign countries is very informative.

(1) Bargmann, W.: Medical Education in Germany, *J. Med. Educ.*, 32:422-426, June 1957.
(2) Smyth, Francis Scott: University of California Medical Science Teaching in Indonesia, *J. Med. Educ.*, 32:344-349, May 1957.
(3) Bonetti, Eugenio: Medical Teaching in Italian Universities, *J. Med. Educ.*, 32:547-551, August 1957.
(4) Sinclair, David C.: Medical Education at Oxford, *J. Med. Educ.*, 32:467-475, July 1957.
(5) Leake, Chauncey: Medical Education in the U.S.S.R., *J. Med. Educ.*, 32:269-277, April 1957.
(6) Wahi, P. N.: Medical Education in India, *J. Med. Educ.*, 31:249-254, April 1956.
(7) Kusama, Yoshio: Medical Education in Japan, *J. Med. Educ.*, 31:393-398, June 1956.

The Association was a participating organization in the Second National Conference on Exchange of Persons, Education for International Responsibilities, December 5-7, 1956 in Chicago. Your chairman attended, and Dr. Howard M. Kline, a consultant to this committee, was a panel discussant.

The Association co-sponsored with The China Medical Board of New York, Inc. and the Conference Board of Associated Research Councils, a Conference on Medical Education for Foreign Scholars in the Medical Sciences, held at the University of Wisconsin, June 24-26, 1957. This is reported in *J. Med Educ.*, 32:590-591, August 1957, by John Z. Bowers, Dean, University of Wisconsin, who acted as moderator and host. The meeting was eminently successful, well planned and beautifully conducted. Several members of this committee participated.

A survey team, consisting of John Z. Bowers, Dean of the University of Wisconsin Medical School, Dean F. Smiley, Secretary of the Association of American Medical Colleges, and Richard H. Young, Dean of Northwestern Medical School, visited the American University of Beirut Faculty of Medicine, Beirut, Lebanon, May 6-9, 1957. The American University of Beirut was chartered on April 24, 1860 by the State of New York; the medical school opened in 1867. There is an American Board of Trustees and American plan of instruction, with key personnel being American, and American financial support. The proclaimed objectives of the medical school are: "To offer medical education of the American type and quality to the people of the Near East where many countries as yet have no facilities of their own; to set a high standard for existing state schools to emulate; and to turn out medical educators who may assist other schools in their development." A report and recommendations were submitted to the Executive Council of the Association.

Dean Bowers and your chairman had the pleasure of individually contacting Dr. E. Grzeoorzewski, Director of Medical Education, World Health Organization, Geneva, Switzerland. RICHARD H. YOUNG, *chairman.*

Following this report Dr. Young presented the following resolutions, which were referred to the Executive Council for study and recommendation.

(1) It is the opinion of the Committee on International Relations in Medical Education that the faculties of medicine and their respective universities should recognize that programs of education in the foreign field, whether by private or Federal subsidy, need the consultation and cooperation of our educational institutions, that such participation is both a university responsibility and an opportunity and that such service enriches the experience of both the individual participant and his institution and hence should be encouraged by proper recognition and appreciation in terms of university service and academic status.

Be it resolved that copies of the foregoing statement be sent the respective constituent institutions of the Association of American Medical Colleges.

(2) Because of the almost insurmountable difficulties and frustrations confronting foreign students who seek premedical or undergraduate medical education in this country, and

Because of the usual inappropriateness of undergraduate education in this country for foreign students who intend to return to medical practice in their own country,

Be it resolved that, the Association of American Medical Colleges recommends to the State Department and other government and non-government agencies that they do not encourage foreign students to seek premedical and undergraduate medical education in this country, and that their recommendations be

limited to those graduates of foreign medical schools who are seeking post-graduate or graduate experience.

REPORT OF THE COMMITTEE ON INTERNSHIPS, RESIDENCIES AND GRADUATE MEDICAL EDUCATION

During the year 1957 this Committee has been concerned largely with two matters:

(1) activities to remove the restrictions on types of internships which may be approved by the Council on Medical Education and Hospitals of the American Medical Association, and

(2) A study of the internship in our university teaching hospitals.

(A) It will be recalled that in 1955 the Council on Medical Education and Hospitals was instructed by the House of Delegates of the American Medical Association to approve for internship training only those programs in which the service was of the rotating type. Further instructions were given urging that action be taken to encourage the elimination of the straight internship in services then offering such programs. This action to restrict form and type of the internship was protested by many different groups and organizations, including our Association. On the recommendation of this Committee the Association Council adopted a forceful position on this matter at the last Colorado meeting. It is gratifying to report that at the June 1957 meeting, the House of Delegates of the American Medical Association, on the recommendation of the Council on Medical Education and hospitals and with the approval of the Reference Committee, rescinded its action prohibiting approval by the Council of straight internships. The House again expressed their preference for the rotating internship experience but authorized the Council to consider for approval straight internship of superior educational content in medicine, surgery, pediatrics and, in special instances, in obstetrics.

(B) At the meeting of the Executive Council of the Association of American Medical Colleges during the last Annual Meeting action was taken approving the recommendation of this Committee that a study of the internship be initiated by the Association. Two meetings of the Committee were held in Chicago on February 9 and 11, 1957, at which tentative plans were submitted to the Executive Council and approved on May 25, 1957. The Committee is now working on final plans for the study which should be submitted to the Executive Council at the Atlantic City meeting for final approval.

E. HUGH LUCKEY, *chairman.*

Following this report, a proposal for "A Survey of the Internship in University Teaching Hospitals" was referred to the Executive Council for study and action.

Annual Meeting:

A meeting of the Committee was held in Atlantic City on Sunday, October 20 from 10 a.m. to 12:30 p.m. Present were: Doctors Deitrick, Lawrason, Luckey, Manlove, Stowe, Wolf, and by invitation Dr. Charles Kiely (representing Dr. Vilter) and Dr. Edward Turner. Doctors Aagaard, Armstrong and Pruitt were not able to be present.

1. The activities of the Committee during the past year were reviewed. Attention was called to the gratifying action of the House of Delegates in June 1957 removing restrictions on the approval of straight internships by the Council on Medical Education and Hospitals.

2. The current status of the Berry Plan and influence of military medical personnel requirements on the residency programs in our university hospitals was discussed. All information now available indicates that in the academic year 1958-59 the needs for physicians in military service will be exceeded by volunteers. This introduces problems of a new sort in our university hospitals: the provision of an adequate number of high quality residency experiences for those men who in recent years would have been called to military service at the end of their internships. Although this is not an unwelcome prospect, considerable reorganization of our internship and residency programs is necessary to accommodate this sudden change in military requirements. Further, it seems to our Committee that this current period provides our governmental agencies the opportunity to plan for future medical personnel requirements in a more satisfactory manner. The following recommendations are made:

A. That physicians be called to active military service only after completion of their period of residency training.

B. That consideration be given to a reduction in the amount of

time an individual physician is required to spend in military service.

C. Not least important, that proper recognition be given to the importance of research and the larger contributions to the overall defense efforts afforded by retention on medical school staffs of selected individuals with unusual research and teaching responsibilities and potentialities. Some provision should be made for the exemption of these individuals from military service in order to prevent the interruption of their scientific and educational productivity.

D. The chairman referred to a letter to the Association from Dean Marsh of the University of Miami requesting approval of a survey in medical schools and selected hospitals concerning their policies regarding the compensation and perquisites to resident physicians from extramural sources. The Committee recognized the importance and extent of this problem but considered that the survey requested would produce no generally useful information and suggested that this was a matter for local policy determination. However, the Committee was in agreement that the compensation for internships, fellowships and traineeships should be approximately the same at any given period after graduation from medical school.

E. Finally, the Committee discussed at length the plans for a study of the internship in our university hospitals. The proposal for this study is attached as an addendum to this report for the consideration of the Executive Council.

REPORT OF THE COMMITTEE ON LICENSURE PROBLEMS

Your Committee has held no formal meeting within the past year, although its chairman and other members attended the Annual Session of the Federation as a part of the Congress on Medical Education in Chicago in February 1957.

At that meeting the general theme was "A Reevaluation of Examination Techniques," and the first of a proposed series of Institutes was held, this one covering Obstetrics and Gynecology. This interest of the Federation in experimenting with methods of examination represents a healthy forward step.

At its meeting in February 1956, the Federation had approved a model Medical Practice Act which had been proposed by a special committee, and it recommended that the various states adopt legislation in line with the principles laid down in this model Act.

In creating the Committee on Licensure Problems, the Association was motivated by its concern over the great difference in licensing practices between the various State Boards, and it is hoped that it might be possible to develop greater uniformity in this respect, throughout the country. The two developments referred to above constitute heartening evidence that progress is being made in this direction. Much still remains to be accomplished; e.g., it is still hoped that some way can be found whereby a senior student will not have to take his medical school final examinations and then, immediately following his graduation, take another set of examinations for licensure. Acceptance by all of the State Boards, of the National Board certification would solve this problem to a large extent, and therefore your Committee repeats the statements which it has made in previous reports, to the effect that every effort should be made to encourage the widespread acceptance of the National Board.

In the earlier years of its existence, your Committee was greatly concerned over the problem of the foreign medical graduate. With the organization and activities of the Educational Council for Foreign Medical Graduates, one phase of this problem no longer remained a major responsibility of your Committee. However, the Educational Council is not directly concerned with licensure of these foreign graduates; this will continue to be a major problem for some time yet, and hence it is likely to remain a matter of pertinent concern to the Association and therefore to your Committee. J. Murray Kinsman, *chairman.*

REPORT OF THE COMMITTEE ON MEDICAL CARE PLANS

In its report at the Annual Meeting in 1956, the Committee on Medical Care Plans made note of the fact that the rapid expansion of medical care plans had led to increasing use of private patients in teaching at both the undergraduate and graduate levels. Major difficulties had arisen, particularly in the later stages of residency training in surgery when full responsibility for the definitive care of patients is necessary. Several possible

solutions were presented to the membership, but no recommendation was made.

Two developments since the report of 1956 indicate the need for further consideration of the use of private patients in residency programs: In a recent issue of the *Journal of Medical Education*, the Society of University Surgeons is quoted as stating that "a properly trained and licensed surgical resident is fully capable of performing surgery, with consent of the patient, and that charges for this service should be recognized by insurance, governmental and other agencies." On the other hand, at the June 1957 Annual Meeting of the American Medical Association, the House of Delegates condemned Medicare payments by the Government to residents.

The Committee on Medical Care Plans has formulated a tentative plan to be discussed at the meetings of the Committee at the time of the Annual Meeting next October. Two propositions are included in the plan:

1. That the geographical full-time physicians in university and other hospitals integrated with medical schools be so organized that private practice by them in these hospitals would constitute group practice of a type already approved by organized medicine.

2. That properly trained and licensed residents in these hospitals be incorporated as bona fide members in the groups designated above, with the right to fees for limited private practice from the patients served or from third parties responsible for the fees.

It is obvious that many objections may be raised. The Committee hopes to be able to meet these objections and to draw up a final plan acceptable to the Association of American Medical Colleges, the American Medical Association, hospitals, and specialty boards. JOHN F. SHEEHAN, *chairman*.

Prior to the 1957 Annual Meeting the Committee formulated a tentative plan for the use in teaching and research of private patients by full-time members of clinical facilities. The basic provisions of the plan were outlined in a preliminary annual report which has been distributed to the membership. At a closed meeting of the Committee on October 20, 1957 modifications and additions were made. The revised plan was presented at an open hearing on October 21, 1957. As a result of the discussions at this session additional changes have been made. The final draft follows:

Institutional Group Practice by Clinical Faculties of Medical Schools—A Statement of Principles.

1. The rendering of medical service by full-time members of clinical faculties of medical schools is necessary for the fulfillment of the teaching and research obligations of the clinical departments. The amount of medical service and the number of physicians providing such service should be proportionate to the teaching load and volume of research.

2. The association of some or all of the full-time members of a clinical faculty in groups designed for collaborative private medical practice is ethical provided:

a. That fees are set by the participating physicians.

b. That the income from fees is deposited in a separate fund or funds in the business office of the university or medical school and

c. That disbursements are made in accordance with a plan prearranged by the university or medical school, and acceptable to the physicians involved. Control of disbursements may be delegated to a committee or other agency approved by the participating physicians.

A single fund for all of the clinical departments is recommended since controlled expenditures from a common fund can best insure the balanced development of the teaching and research programs of the individual clinical departments.

3. The economic and sociological problems resulting from the long period of education and training necessary for the practice of medicine have impeded the recruitment of qualified candidates for medicine and fostered the abandonment of many graduates of medical schools of plans for continued education in institutions best adapted to provide such opportunities. To offset, at least in part, these unfavorable trends, expedients may have to be adopted to insure some degree of economic security, particularly in the later stages of preparation for practice. Hence, despite apparent violation of the traditional concept of resident-training, residents may have to be permitted to engage in limited medical service for fees. Those permitted this privilege should be members of a group of full-time members of a clinical faculty, organized for collaborative private medi-

cal practice. Such participation by residents is not unethical provided:

a. That, in the judgment of the physicians directing their education and training, they have reached a stage of competency adequate for the assumption of appropriate responsibility.

b. That they have secured a license to practice medicine in the state or states in which are located the institutions in which they serve as residents.

c. That they have obtained the consent of the patients for whose care they assume responsibility.

All fees received by these residents should be deposited in the fund or funds designated by the plan which governs the terms of medical service by the group of which the residents are members.

The Committee on Medical Care Plans is well aware that the adoption of these proposals may tend to weaken the bond between a university or medical school and its faculty and may portend retrogression toward a proprietary type of school. Nevertheless, the financial plight of many of our medical schools is serious enough to warrant the risk. JOHN F. SHEEHAN, *chairman*.

The recommendations regarding institutional group practices by clinical faculties of medical schools—a statement of principles—was referred to the Executive Council for study and action.

REPORT OF THE COMMITTEE ON MEDICAL EDUCATION FOR NATIONAL DEFENSE

At its October meeting, the Executive Council of the Association of American Medical Colleges indicated its wish that the Committee on Planning for National Emergency expand its activities on behalf of the Association. It added the following members to the Committee:

Melvin A. Casberg, M.D., *Vice President, University of Texas*

George Armstrong, M.D., *Vice Chancellor for Medical Affairs, New York University*

Daniel T. Rolfe, M.D., *Dean, Meharry Medical College*

William S. Stone, M.D., *Dean, University of Maryland School of Medicine*

At its meeting in February, it voted to rename and redefine the Committee as follows:

a) "The Joint Committee on Medical Education in Time of National Emergency is to be abolished (subject to similar action by the Council on Medical Education and Hospitals).

b) The Association's present Committee on Planning for National Emergency is to be renamed 'The Committee on Medical Education for National Defense.'

c) The present Subcommittee on Medical Education for National Defense of the Joint Committee will be made a subcommittee of the new Association's 'Committee on MEND' and entitled 'The Subcommittee for the MEND Program.'

d) If joint action of the AAMC and the Council on Medical Education and Hospitals is required, the Liaison Committee on Medical Education will appoint a subcommittee for the purpose."

The newly re-organized Committee on Medical Education for National Defense prepared the following statement of objectives which was approved by the Executive Council by mail vote.

In spite of the widely held view that a war involving nuclear weapons would be a short war, it appears safer and more realistic to assume that such a conflict would last, as have other major wars, for at least four years before a decision or stalemate is reached. The need for health services will increase progressively throughout the combat period. Considering the devastation that weapons of mass destruction now available can create, adequate support by a superior health service with sufficient professional personnel may well be a major factor in victory or its lack a critical factor in defeat.

Medical education and medical research are essential resources of our nation which should be protected in time of national emergency because even temporary interruption has immediate and lasting effects which we can ill afford. Orderly procedures to preserve the quality of professional education and the conduct of important research should be developed in advance of such emergency by defining for the several degrees of military commitment the extent to which educational and research personnel and students shall be assigned to this vital task.

Colleges of medicine and teaching hospitals should develop proposals for alternate sites of operation and for mutual cooperative assistance in the event attack

occurs or appears imminent. Colleges of medicine should insure that their students and graduates are fully prepared to meet their unusual responsibilities as physicians in time of national emergency.

In furtherance of these objectives, the Committee on Medical Education for National Defense recommends to the Executive Council of the Association of American Medical Colleges:

1. That strong efforts be made by the Association of American Medical Colleges in cooperation with such organizations, persons, and governmental agencies as it deems appropriate, to define as soon as possible mechanisms whereby students, salaried and voluntary faculty, interns and residents may be permitted to carry on essential medical education and research activities in the event of national emergency. There may be many ways to define the essentiality of the groups mentioned above, but we believe it could be effectively accomplished by the following:

a. Continue the function of the National Advisory Committee to Selective Service as a permanent activity.
b. Divide the registrants for which this committee is now responsible into two main categories:
(1) Professional persons in practice
(2) Those engaged in teaching and research
c. Continue to delegate to the state and local advisory groups, as now constituted, responsibility for advising with respect to professional persons in practice.
d. Develop new regional advisory committees, composed of representatives from medical education and research, to advise with respect to medical students, teachers and investigators, interns and residents. These regional committees would function under the National Advisory Committee as do the state and local advisory committees.

2. That the MEND Program be continued and expanded to include as many schools as wish to participate. Serious inquiry should be made into the possibility of further expanding this activity in time of emergency to include, under direction of the faculty, those additional responsibilities of medical students that are essential during national emergency. This might include military orientation and training and such other courses and activities as would best fit them to serve their country. It is believed that this mechanism would be superior to those used in other emergencies.

3. That medical schools be requested and encouraged (perhaps required) to develop an "emergency plan" with local and national support. This would require that each school survey the surrounding area to locate possible alternate sites of operation if enemy attack should occur or appear imminent and have a plan for evacuation of this location. Regional plans should be developed for the continued education of students and the utilization of faculty displaced by destruction of medical schools. Consideration should be given to the possibility of forming "affiliated medical care units" composed of faculty and students to go to the aid of devastated areas for a period limited to the acute emergency. All schools should be familiar with the setting up and operation of emergency hospital equipment in public buildings such as schools and churches.

4. That continuing study and revision be made of these plans to keep them current with changing concepts of war and defense. There should be continuing efforts to maintain close liaison with responsible officers and officials of the military services and other Federal agencies concerned with medical aspects of defense. The program of the convention of the Association of American Medical Colleges should be planned with this as one of its objectives.

If the Executive Council approves of this approach to planning for national emergency, the Committee will proceed in cooperation with the Executive Director of the Association of American Medical Colleges to implement the plan as expeditiously as possible and will keep the Council informed of its activities.

On May 4 the Committee met in special session in Washington to consider the following matters:

1. It reviewed in detail the proposed amendment to selective service authorizing physicians, dentists, and allied specialists to be selectively called up to age 35, irrespective of the age grouping employed by selective service for other registrants. Recommendation was made with reference to a prepared statement to be presented to the House Armed Services Committee at its hearings on the bill. (Subsequently the Chairman presented the attached statement when the House Committee met on May 8.)

2. Information was obtained regarding the appointment of a special study committee under the chairmanship of Dr. Harvey Stone to report to the Director

of the Office of Defense Mobilization regarding plans for the continuation of medical education during time of emergency. It seemed advisable that our group should work as closely as possible with this newly formed coramittee.

3. Considerable discussion took place about how to proceed in the matter of persuading the schools to develop an "emergency plan" for evacuation or for the reception of "bombed out" students and faculties.

The Committee approved two steps at this time:

(1) To contact Dr. Middleton to see if a national policy can be formulated authorizing managers of V.A. hospitals located in smaller communities to cooperate with officials of medical schools in their area who consider their hospital a suitable potential alternate site for the continuance of medical education in the event an alternate site is required. This might not be feasible for all schools but might be for a large percentage. It has the further merit that these hospitals might become extremely important resources for civilian medical care under emergency circumstances and in that case would have excellent clinical material.

(2) It was further suggested that the Office of the AAMC send a copy of the Committee's objectives (as approved by the Executive Council) to each school with a request for copies of such plans as have already been formulated. We expect few schools have such plans, but even those few should be studied before suggestions are made to the schools as to how to proceed in the development of a plan. If the Veterans' Hospital approach has been cleared, they could be given this information and requested to explore the merits of the plan for their area.

4. There was inquiry into the problem of the Armed Forces granting graduate degrees. The Committee requested that Dr. Colin MacLeod, Chairman of the Research Advisory Board of the Walter Reed Army Institute of Medical Research be contacted for information as to how academic work at the Institute was organized and the relationship of his committee to educational activities.

5. Colonel Fitts, who was in charge of the ASTP program in the office of the Surgeon General of the Army during World War II met with us for an hour and provided information about the history of the ASTP. Apparently the thinking of the Army was influenced greatly by the experience of World War I when it was found that large numbers of medical students volunteered for active duty even though they were deferred by the draft boards. As a result, the graduating class in 1922 was only 2,250 as compared with 4,500 in 1917.

The subcommittee on the MEND program has met on three occasions—in October at Colorado Springs, in February at Chicago, and in June at New York City. It has reviewed the operation of the programs at the 35 schools. It has planned symposia and orientation tours and has tentatively selected additional schools for inclusion in the program as funds become available. Dr. Schofield and Mr. Don Smith have done outstanding work in implementing the MEND program and finding new ways to tie the medical schools and the Armed Forces together more closely. STANLEY W. OLSON, *chairman.*

Following this report, Dr. Olson presented the following additional report which was referred to the Executive Council for study and action.

REPORT OF MEND COMMITTEE

1. This group notes with satisfaction the steps taken by our government to strengthen the Health Section of the Office of Defense Mobilization as evidenced by the following appointments:

a. That of Dr. Palmer Dearing to the position of Assistant Director for Health.

b. That of the Task Force For Health Manpower under the chairmanship of Dr. Harvey Stone and the staff direction of Dr. Leslie Knott.

The report presented by Dr. Knott at the conference on Saturday, October 19 gives good evidence that this task force is approaching the problems of Medical Education in Time of National Emergency with sound objectives in mind. Further, this governmental interagency committee apparently is willing to seek consultation from responsible educational groups and to be guided by their suggestions.

In view of the great significance that this Task Force's recommendations can have for the entire field of medical education, we urge in the strongest terms possible that the AAMC continue its efforts to guide their decisions to the end that they may be supportive of rather than destructive of sound educational programs in medicine.

Further, it is quite clear that the problems of medical manpower in time of na-

tional emergency impinge almost immediately upon educational policies and programs. Every effort should be made (probably in cooperation with the Council on Medical Education and Hospitals of the AMA) to insure that policies regarding educational manpower requirements not be formulated solely by groups and individuals primarily concerned with the allocation of medical manpower between the military and the general population.

2. We request that the President of the AAMC write to Dr. William Middleton, Chief Medical Director of the Veteran's Administration, stating that the AAMC officially endorses the proposal that medical schools individually consider the use of Veteran's Administration Hospitals in other than their other immediate areas as potential sites for clinical teaching in the event of destruction of normal clinical facilities by enemy action. Dr. Middleton has indicated his desire to receive such an official request before entering into further discussions of the possibilities of such a plan.

3. The Committee believes the time has come for the AAMC to put itself on record as having officially requested each school to proceed with the development of emergency plans for the continuation of education in the event its physical plant is destroyed or severely damaged by enemy action. We believe it may be appropriate to direct such a letter to the president of the university (when feasible) with a copy to the dean.

It appears important to study manpower requirements as an integral part of such an emergency plan, and the Committee requests that the deans be advised with respect to whatever plans the AAMC may have in this regard so they not begin a study which would be superseded by a later request for different information.

When emergency plans have been developed by the schools some mechanism would be devised for informing the AAMC or its appropriate committee of their nature. Information regarding particularly appropriate plans should be circulated to the other schools for their consideration.

REPORT OF THE COMMITTEE ON PUBLIC INFORMATION

The Committee met in Cleveland on March 20-21, 1957, with Dr. Ward Darley, to discuss long range plans for an AAMC public relations program. Representing the Committee: Doctors Caughey (Western Reserve) and Van Nuys (Indiana), Milton Murray (College of Medical Evangelists) and Ray Torr (National Fund for Medical Education). Absent were Doctors Cameron (Hahnemann) and Forster (Georgetown) and Ralph Rohweder (National Society for Medical Research). This report summarized the discussion at that meeting.

Opening the first session, Dr. Darley stated that public relations has top priority among AAMC organization problems. He expressed the hope that the Committee would provide guidance to him in working toward an effective solution.

Considerable question was raised about the importance to medical education of newspaper publicity. It was emphasized that good PR begin at home, in dealings with students, staff, employees, relatives, volunteer workers and others participating in medical center activities. Each of these groups must feel they are a part of a high quality operation if they are to make their best possible contribution to medical school PR in the community.

Dr. Caughey expressed the feeling that one AAMC PR objective should be to have every informed citizen know that medical schools locally and the AAMC nationally are sources of medical leadership, just as are county medical societies the AMA. Dr. Van Nuys emphasized that these two sources of medical leadership are not necessarily in conflict, since all practitioners are former students and could be helped to develop thorough understanding of medical schools' objectives and problems.

Dr. Darley stressed the need of AAMC for competent PR staff if it is to plan ahead to meet recognized problems. He pointed out that the AAMC is frequently put in a defensive position because issues arise in areas where AAMC has no clearly defined policy. He cited private practice by geographical full time teachers, internships in teaching hospitals, residency programs, and postgraduate education as examples of problems needing effective long-range planning by AAMC. Dr. Darley also spoke of the need of AAMC for "operational research" to provide data on which to base its overall policy-making. Under this heading he discussed:

(1) cost accounting in medical education,
(2) university - medical school relationships,
(3) the proper scope of private practice by medical school teachers,

(4) the reasons for, and effects of, geographical limitations on medical school admissions,
(5) the predictable need for new medical schools, including possible 2-year schools,
(6) the means for decreasing the drop-out rate among medical students,
(7) the potential "pool" from which additional faculty personnel can be drawn, and
(8) the most effective way of preparing and using an "Annual Report" of AAMC activities.

Dr. Darley pointed out that the addition to AAMC of divisions concerned with PR and with Operational Research headed by persons capable of working at the policy and planning levels would make it possible to have very effective staff conferences in the central office.

There was considerable discussion of the relations of medical schools with the universities. It was emphasized that many presidents are ill-informed about medical education, and that faculties in liberal arts and other divisions are often antagonistic because of the medical schools' higher salary scales, and greater ability to attract research funds. It was stressed that effective PR are needed to deal successfully with these and other groups, including students and alumni.

The Committee discussed in detail the organization of a PR program for AAMC. It was agreed that PR should be a recognized department of AAMC, and should be headed by a Director capable of participating with the Executive Director and other department heads in the development of Association policies and long-range plans. From an organizational point of view, the PR department would correspond to other units of the Association such as the Journal of Medical Education, Educational Research and Services, and the projected Operational Research.

There was extensive consideration of the qualifications an AAMC PR director should have. It was agreed that ability to understand the broad significance of medical education and the problems of the Association and member schools, and to give professional level assistance to the Executive Director would be more important than any specialized training or experience in techniques of communication. The concensus was that knowledge and experience in the field of education should be considered essential, while previous direct contacts with health and with public relations should be classed as desirable.

The following suggestions were made about functions of an AAMC PR director:

(A) Professional level assistance to the Executive Director in planning and policy functions.
(B) Development of personal relations with individual medical schools to understand their problems and assist them in local PR programs.
(C) Formulation of a national PR program to serve and support the objectives of the AAMC.
(D) Cooperation with the Committee on Public Information, for which he would serve as secretary, *ex officio*.

The Committee discussed the staff needed for an AAMC PR program. It was agreed that the additional personnel should include at least one person with specific communication skills and experience who would be capable of presenting effectively the information the various "publics" should have about the AAMC and its functions. It was recognized that such a person should be selected to complement the abilities and experience of the PR Director, and that this second person might also have functions in connection with the Journal of Medical Education.

The Committee recommended to Dr. Darley a detailed budget of $23,000, $33,700, and $35,000 for the three years in which the build-up of a PR program would be made.

The Committee discussed its own role after the AAMC establishes a PR department. It was agreed that in accordance with usual AAMC procedure, the Committee should have an advisory function only, with normal channels of communication to the Association at the Annual Meeting, and to the Central Office and member schools through the Director of the PR Department. It was felt that the Committee could provide him with valuable suggestions, especially in regard to the reactions of medical schools to PR problems and plans. It was agreed that the Committee might well be enlarged by the addition of three or four more deans to assure adequate representation of medical administrative opinion.

Mr. Murray reviewed the present status of his proposals for a traineeship program in medical public relations. He suggested that the scope of National Institute of Health traineeship programs

is so wide that medical PR persons might be included even under present regulation. It was agreed that more needs to be done to define the qualifications such trainees should have, to determine what demand there may be for this training, and also to be sure that there are adequate places where they can be trained and appropriate jobs for them to fill when their training is completed. It was suggested that the AAMC PR Department might be an excellent training resource at some later date.

In addition, the Committee discussed a number of public relations problems with which medical education is faced—that is, questions on which there is admitted to be considerable misunderstanding, both within the medical profession and among the general public: medical school admissions policies, the so-called "doctor shortage;" geographic full time arrangements; the reasons for and extent of financial needs; geographic restrictions on enrollments; the wide range of medical school activities and responsibilities (that is, what the schools do besides turn out new doctors): the role of medical education in the promotion of national health, productivity and security, and others.

Any long range program to clarify these issues, it was agreed, can best be forwarded through the cooperation and joint efforts of

(1) the individual schools,
(2) the Association of American Medical Colleges and
(3) the Association's natural allies, such as the American Hospital Association, the AMA, the National Fund for Medical Education, the U.S. Department of Health, Education and Welfare, the volunteer health agencies and other groups that disseminate information in the health field.

The primary impetus and leadership for such a program, the Committee agreed, should come from the AAMC Executive Council, through a public relations department which, it was hoped, may be set up in the near future.

It was agreed, however, that the individual medical schools can do a great deal in the way of public relations without waiting for impetus and guidance from the national office. The Committee emphasized that medical schools—like *all* institutions, like all *people*, in fact—have public relations *all* the time, whether they are aware of it or not. The question is: Are these public relations good or bad? How do the various publics look upon us? It was pointed out, during the Committee's discussion, that the practicing physicians who make up the county medical societies were once our students. Do the schools do all they should to help students understand the geographic full time problem? Good public relations with this important "public" might help us in establishing understanding and close working relationships in the future with county medical societies.

It is clear from the above summary that, as it has each year for the past ten, the Committee on Public Information advocates a vigorous Public Relations Program in the central office of the Association. We believe this is absolutely necessary if the Association is to meet fully its obligations for national leadership in all matters affecting medical education, JOHN L. CAUGHEY, *chairman*.

REPORT OF THE COMMITTEE ON VETERANS ADMINISTRATION—MEDICAL SCHOOL RELATIONSHIPS

No specific problems relating to the relations of Deans' Committees, or Medical Schools, to the Veterans Administration requiring a meeting of your Committee has been brought to our attention during the past year.

It seems proper however to report briefly on the problems which confront the Veterans Administration and many affiliated medical schools in both the educational and research programs.

There are 90 VA hospitals affiliated through Dean's Committees with 72 medical schools. In 81 of these hospitals there are approved resident training programs.

The VA Hospitals, like many others, are not filling the number of residencies offered. This is in part due to the fact that there are many more residencies offered throughout the country than there are applicants. Another factor in some programs has been the difficulty of the VA in meeting the requirements of the specialty boards because of the lack of female and pediatric patients. This has been met in some places by integration of the resident program at the VA hospital with that at the university hospital, and in others by various forms of affiliated services.

It seems to this Committee that if Deans' Committees are to assume responsibility for residency training programs in VA hospitals they should make every effort to see that these programs are of high standards and meet all re-

quirements of the boards, or else recommend that they be discontinued. If resident programs are discontinued, there would be less need for Consultants and Attendings, and the suitability of VA facilities for undergraduate teaching would vanish. Aside from any patriotic motives, it would seem that it is proper, after some ten years of Deans' Committees-VA relationships, for the medical schools to decide whether the association has been worth the cost to the school, and whether it is sufficiently desirable to actively support the VA residency programs.

For the year 1956-1957, 61 medical schools assigned students to 60 VA Hospitals. Thirty-one schools sent all of either third or fourth year classes to VA Hospitals for clerkships. About one-third of all third and fourth year students had clerkships in VA hospitals.

One of the most interesting and important developments has been the establishment of the Clinical Investigator Program. This is designed to provide one to three years training for men who desire training in clinical investigative techniques, with a view of either a career in the VA or university setting. At present 23 have been selected by a special committee from among some 50 applicants. This program does not compete with existing USPHH or Markle awards. It is designed to provide training for investigators who have completed their formal years of residency training, but who are not yet capable of fully independent research. It is a distinct contribution to increasing the pool of trained medical investigators.

The research programs in VA hospitals have shown commendable growth. Research in the VA is essentially for improvement in care of VA patients, and is under the aegis of VA physicians. There are now some 170 laboratories in VA hospitals. The larger ones naturally, are in hospitals closely associated with medical schools. The unique position of the VA hospital system in conducting cooperative studies is being more fully exploited. In addition to the original cooperative studies on the chemotherapy of tuberculosis, cooperative studies among a group of hospitals are now in progress on a number of problems, including coccidiomycosis, histoplasmosis, sarcoidosis, tranquilizers, antihypertensive agents, pulmonary function testing, multiple sclerosis, esophageal varices, staphylococcal resistance, and chemotherapy of cancer. All of these are coordinated by the Hospital Education and Research Committee which includes representatives of the medical schools as well as VA physicians.

The most serious threat to the VA medical program is the failure of Congress to provide any increase in salary for VA physicians. This will make recruitment more difficult, and poses a real threat to the continued service of many of the best men now in the VA roles.

As Dr. Berry has pointed out, while the affiliation between the medical schools and the VA was not established for the primary purpose of aiding the medical schools per se, the objectives are best attained when the relationship is mutually beneficial to both the VA and the medical schools. It would therefore seem incumbent on the schools to make every effort to preserve the high quality of patient care and personnel which exists in VA hospitals. JOSEPH M. HAYMAN, *chairman*.

This Committee recommends to the Association that the Council be requested to consider the desirability of a study to determine whether the Veterans Administration-Medical School relationships have been mutually beneficial and should be continued, and if to be continued how the mutual advantages of the relationships might be enhanced.

The question of the study of Veterans Administration-Medical School Relationships was referred to the Executive Council for study and appropriate action.

Editorials and Comments

Sputnik and Medical Research

IT NOW APPEARS that, although Sputnik I was a physical experiment, Sputnik II was a physiological one. These recent advances in long-range rocketry, culminating in the successful launching of two earth satellites, have precipitated another wave of anxiety about the adequacy of recruitment programs for the physical sciences and engineering. At the same time, there is real concern that education in these fields which relate so directly to the development of earth satellites should not receive undue emphasis while other areas lag behind. Education and research in the medical and biological sciences must be expanded as vigorously as other scientific and technical areas if our country is to progress in scientific developments.

United States scientists returning from Russia have commented informally on the emphasis that the U.S.S.R. has placed on the physical sciences and engineering, while it has been their observation that the biological and medical sciences have received far less attention. It it is true that Russia has neglected the biological and medical sciences as well as the humanities and the social sciences in the precipitate pace she has set in technology, such neglect can, in the long run, only be to her disadvantage—or to that of any other country placing undue emphasis on the physical sciences at the expense of the physiological sciences. In the world competition for progress and prestige, the United States should find in this situation an opportunity for new scientific achievement and leadership.

Flight into outer space by an integrated physiological organism poses intriguing problems. Unavailability of oxygen for respiration, intense cosmic and ultraviolet radiation, zero gravity, and the effects of sudden acceleration or deceleration are among these problems, and medical scientists in the United States are unquestionably ahead in these fields —save for one dog. Perhaps the reason for our pre-eminence in this area is that the research is not concentrated in one or two Federal laboratories; it is independently in progress in a number of our medical schools.

Other areas of investigation have emerged to positions of greater importance. The vast web of problems relating to photo-synthesis must surely be receiving greater emphasis in the U.S.S.R. and should be given comparable attention in the United States.

The launching of Russia's two earth satellites has also precipitated a great deal of discussion regarding existing or potential shortages of scientific manpower. In the vigorous programs of recruitment of manpower for the physical sciences and engineering (perhaps with Federal

subsidy) which lie ahead, it is important that a balance of power in all areas of higher education be effected, including the biological and medical sciences.

It can thus be concluded that Sputnik, Mark II, should be a warning and a challenge. Medical research in the United States should be pursued as vigorously and intensely as other sciences, and the need for a flow of promising young scientists into medicine and for funds to support their research is more pressing than ever before.—*J. Z. B.*

Letter to the Editor

I READ WITH much interest Dr. Francis Scott Smyth's article in the October issue on the University's Role in International Affairs. Dr. Smyth makes an excellent point, and certainly his University has demonstrated what can be done by going abroad to help the faculty of a medical school.

Having talked with a large number of Exchange Visitors, many of whom were in the process of changing from an Exchange Visa to a permanent immigration visa, I have been interested to attempt to find out why they do not wish to go home. There are obviously many reasons, which reflect upon the ultimate success of an exchange program. These same factors largely determine the extent and value of American university participation in world affairs. In the area of medical education, this has been amply demonstrated. It suffices to say that, up to now, the exchange program in medical education has suffered a staggering blow because of the large number of visitors who changed their status to that of permanent immigrants.

What Dr. Smyth senses is that this has not really been an exchange program, and the difficulties in interesting faculty members to go abroad may in a large part be due to the absence of the large groups of ex-Exchange Visitors who did not go back home. This has, indeed, been one of the predicaments facing the Exchange Visitor. He knows, too, that he cannot have an appreciable effect on medical education or practice as an individual.

Perhaps it may be worth asking whether the training of an individual Exchange Visitor is significant or profitable. From this conditional premise, it would certainly appear reasonable that a much more effective program would result from the training of teams of individuals. If a foreign school had a real interest in developing a nucleus of well trained persons, and if the American university took this team and trained it in the various departments of its organized service, the ultimate effect would be far more significant.

I would not disagree with Dr. Smyth's position that "field enterprises" and assignments in foreign faculties are an important aspect of this program. I do believe, however, that until such a time as there is a small but determined nucleus in a foreign faculty, which has been oriented to a higher level of achievement than that under which it cur-

rently operates, there will not be a strong urge for the individual American educator to go abroad. Thus, the most convincing argument against training the individual may be a matter of not being able to estimate, in five years or over, the effect the large number of visitors who never went home would have had in their own native professional locale in overcoming present obstacles.

This situation is both an enigma and a challenge for the American university. Dr. Smyth's suggestion that a pool of teaching talent be established would be faced with this problem. Again, with better trained nuclei in foreign faculties, there could be drawn from the pool personnel to organize and promote continental and regional teaching institutes and, perhaps, individuals who could act as consultants in local situations. There would also be merit in using the pool in this country if the universities could agree to set up a reasonable number of training centers in postgraduate faculties. The fact would have to be faced that not more than one or two medical institutions have a wide familiarity with the multiple problems involved in the recognition of variable levels in foreign medical education. No team, for instance, that would come here on the exchange basis would be prepared to enter the level of our present residency programs without a careful review of its ability to assume the responsibility involved, and not until enough time and preliminary experience had been provided to supplement their background. It will perhaps prove to be an eventual conclusion that the environment which requires an orientation upward on the part of the student will be superior to one necessitating an orientation downward on the part of a faculty.

Whatever the final opinion as to what the best method is to improve international levels of education, particularly in medicine, present efforts must be primarily concerned with language ability and the educational level of the Visitor—whether he be an individual or a member of a team.

One wonders, now, whether the universities will sustain an interest in this over-all program, whether they will wish to participate in a program which divides itself into two groups, education and service, going in opposite directions, and whether foreign schools and governments will much longer participate in a program which may be draining off the best of their professional resources.

The universities, so far, have done an excellent job with the Visitors who come directly to them. It should be said that the over-all management of the exchange program in medicine was not a recommendation or responsibility of the universities. Yet, the evidence of improvement in international medicine education for many years will be measured largely by what the universities have done. It is possible that the universities must decide now where they can work most effectively.

STILES D. EZELL, M.D., Secretary
Board of Medical Examiners
State of New York

Two Significant Reports

AN ASSOCIATION is "a body of persons joined for a common purpose." In his 1957 report to the Association of American Medical Colleges, our Executive Director set forth a series of common purposes which he believes are the functional charter of our body. Further, he has now expanded that report to a provocative document published in this issue of the *Journal* on page 66.

In our Association, 1957 was a year of administrative changes—1958 is the year of *challenge*. The challenge as set forth by our Executive Director is clear—it is his firm desire to see each of our member schools participate ever more actively in the affairs of the Association. Just as communication is a corner-stone upon which a dean must build his program with a faculty, so communication is the base for the continued development of the program of our Association. And the communication upon which our development depends, should flow as freely from the schools to the Director, as in the opposite direction.

There is no better evidence of the value of this two-way communication than the excellent report of Helen H. Gee, Ph.D., Dirctor of Research, which also appears in this issue of the *Journal*. By making information on students and student selection available to that office, our schools have received dividends of information which exceed the most speculative investment in any market.

It is apparent that Dr. Darley will seek information from our member institutions on a variety of problems. 'Mo're work for the dean's office" may be our first reaction; but "more progress for our member institutions" is the obvious eply!—*J. Z. B.*

Book Reviews

POLICY

According to the policy established by the Editorial Board at its meeting in Atlantic City on October 20, 1957, only those books dealing directly with problems of medical education will henceforth be given a complete review in this *Journal*. The books which appear to be useful as teaching instruments will be commented on, the material coming from the foreword of the book. Other books will be listed as having been received but not reviewed.

K. E. Penrod
Book Review Editor

So You Want to Be a Doctor

Edited by Alan E. Nourse. Harper and Brothers, New York, 1957.

This interesting book was written by a 1955 graduate of the University of Pennsylvania School of Medicine for the avowed purpose of providing some light along the often dark and mysterious route between high school graduation and the hanging of the shingle signifying the practice of medicine. The lighting is extremely well done; the accuracy of the information given is, with minor exceptions, of the highest order and the prose is conducive to easy and rapid reading.

Dr. Nourse has admirably resisted the temptation to over glamorize the medical profession in the way many have done. He states at the outset his objective is not to sell the reader on medicine as a career; rather it is to answer as many of the questions in the mind of the reader as he can regarding what it is like to study medicine.

This book should be a "must" for all premedical advisors to provide them with a better insight into what their advisees face. Undergraduate students thinking of a career in medicine will find much of interest as well as a great deal of sound advice in the 186 pages of the book. To the relief of medical educators the author avoids taking a soapbox stand on many controversial issues such as the three *vs.* four years of college question and the nature of the academic major, yet these things are discussed.

The scope of the book covers the premedical years with their required and elective courses, the statistical odds against receiving an M. D. degree, a realistic look at costs, the details of filing applications to medical schools (which is termed "The Big Hurdle"), a detailed look at each of the four years of medical school, and a quick look at internships and further graduate medical education.

The author, unlike many professionally trained people who suddenly get an urge to write, has had considerable writing experience. In fact much of his medical education was financed from this source. As a consequence he has produced a very readable book that should meet wide acceptance.

K. E. P.

AN AMES CLINIQUICK

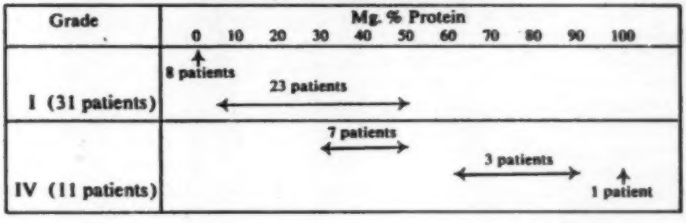
CLINICAL BRIEFS FOR MODERN PRACTICE

is there any correlation between the amount of protein in urine and the grade of heart failure?

Yes. There is a fairly positive correlation.

Source—Race, G. A.; Scheifley, C. H., and Edwards, J. E.: Circulation *13*:329, 1956.

Proteinuria In Cardiac Failure



"dip-and-read" tests

adjuncts in Clinical Medicine

ALBUSTIX TRADEMARK Reagent strips for proteinuria

KETOSTIX TRADEMARK Reagent strips for ketonuria

CLINISTIX® BRAND Reagent strips for glycosuria

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Items of Current Interest

American Board of Nutrition

The American Board of Nutrition will hold the next examinations for certification as a Specialist in Human Nutrition, during the week of April 13-19, 1958, at Philadelphia, Pennsylvania. Candidates who wish to be considered for these examinations should forward applications to the Secretary's office not later than March 1. Application forms may be obtained from the Secretary, Otto A. Bessey, Environmental Protection Research Division, Quartermaster Research and Development Center, Natick, Massachusetts.

American Cancer Society

The American Cancer Society has announced that Clinical Fellowships at the senior resident level for the academic year 1959-60 may be applied for by institutions accredited by the Council on Medical Education and Hospitals of the American Medical Association to give training in the following specialties and sub-specialties, with emphasis on the diagnosis and treatment of cancer: internal medicine, malignant diseases, neurological surgery, obstetrics, gynecology, orthopedic surgery, otolaryngology, pathology, public health, radiology, surgery, and urology.

Institutions will be notified of awards granted in June 1958. Individual candidates should apply directly to an institution, or to the American Cancer Society, for information concerning fellowships. The annual stipend, tax exempt, is $3,600.

Application forms are available from the Director of Professional Education, American Cancer Society, Inc., 521 West 57th Street, New York 19, New York.

February 15, 1958 is the deadline for institutions submitting applications for the 1959-60 clinical fellowships.

MEND News

MEND Program activities for the balance of the current school year, as they are presently planned, include two symposia, the annual Orientation Tour, and a conference of representatives of schools just beginning their MEND affiliation.

The symposia include an Army-sponsored program on the "Management of Mass Casualties" on March 3-5, to be conducted at the Walter Reed Army Institute of Research in Washington, D. C., and a Public Health Service—sponsored session on "Acceleration and Deceleration," tentatively scheduled for late April in Ann Arbor and Detroit, Michigan.

This year's Orientation Tour will take place during the period of March 15-30, and will probably include visits to Navy installations in San Diego, California, and Air Force and Army activities in San Antonio, Texas.

A conference of deans and/or coordinators of schools whose MEND affiliation began on January 1, 1958, is planned for Saturday, February 8, in Chicago, just prior to the Congress on Medical Education and Licensure.

The 1958 MLA Meeting

The fifty-seventh annual meeting of the Medical Library Association will be held in Rochester, Minnesota, from June 2 through June 6, 1958, with headquarters at the Hotel Kahler. The theme of the Rochester meeting will be "Advances in Medical Library Practice." Mr. Thomas E. Keys, librarian of the Mayo Clinic, is convention chairman, and letters of inquiry should be addressed to him.

A preconvention activity is being planned for Saturday, May 31. A

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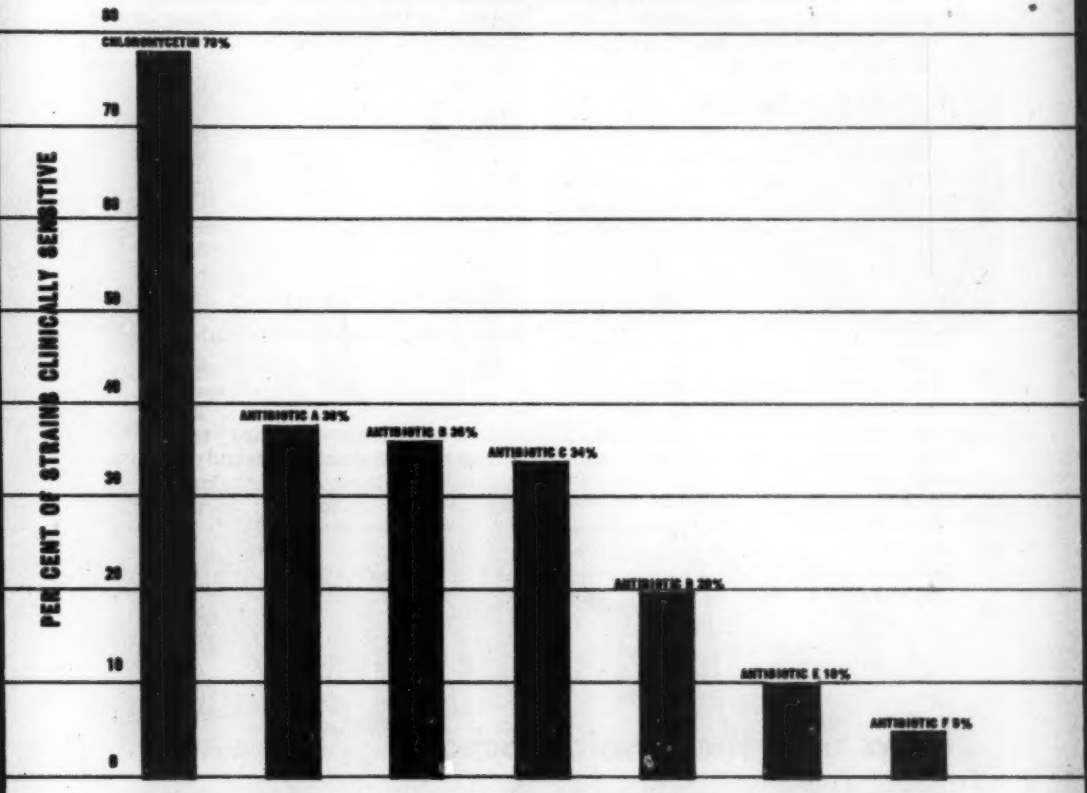

COMPARATIVE SENSITIVITY OF MIXED PROTEUS SPECIES TO CHLOROMYCETIN AND SIX OTHER WIDELY USED ANTIBIOTIC AGENTS*

*This graph is adapted from Waisbren, B. A., & Strellner, C. L.: *Arch. Int. Med.* 99:744, 1957. It represents *in vitro* data obtained with strains isolated from patients between the years 1951 and 1956. Inhibitory concentrations, ranging from 3 to 25 mcg. per ml., were selected on the basis of usual clinical sensitivity.

CHLOROMYCETIN (chloramphenicol, Parke-Davis) is a potent therapeutic agent and, because certain blood dyscrasias have been associated with its administration, it should not be used indiscriminately or for minor infections. Furthermore, as with certain other drugs, adequate blood studies should be made when the patient requires prolonged or intermittent therapy.

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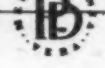

90103

series of refresher courses embracing many fields of medical library work will be given. Classes will be made up from the following subjects: Administration, Acquisitions, Classification, Cataloging, Non-book materials, Photoduplication, Public Relations, Reference Work, Rare Books, History of Medicine, Bibliographic Services, Periodicals, Binding, Library Architecture, Equipment, and Medical Terminology.

National Foundation for Infantile Paralysis

Basil O'Connor, president of the National Foundation for Infantile Paralysis, announced that his organization has added $1 million to its research allocation for 1958, and that the larger part of this sum will be devoted to basic research.

Among the projects which will be continued and expanded under National Foundation grants are studies of how viruses affix themselves to and invade cells, studies on the composition and structure of viruses, studies of the structure and function of nucleic acid (a key chemical found in all living things), studies of viruses recently discovered whose relationship to disease is still not wholly understood, studies of reasons why certain drugs inhibit virus growth, and studies of the properties of cells which appear to have become malignant as they have been grown in laboratories.

National Institute of Neurological Diseases and Blindness

Appointment of Dr. Ntinos C. Myrianthopoulos to the Epidemiology Branch of the National Institute of Neurological Diseases and Blindness was announced by Dr. Pearce Bailey, Institute director. The Institute is a component of the National Institutes of Health, principal research arm of the U. S. Public Health Service, Department of Health, Education and Welfare.

Dr. Myrianthopoulos, a geneticist, will be directly associated with Dr. Leonard T. Kurland, Chief of the Epidemiology Branch.

Travel Fund for Ophthalmologists

The National Institute of Neurological Diseases and Blindness announced the establishment of a special travel fund designed to aid younger ophthalmologists and other scientists engaged in ophthalmological teaching or research to attend the 18th International Ophthalmology Congress. The Congress is being held in Brussels, Belgium, September 8-12, 1958.

News from the Medical Schools

Arkansas

Dr. JAMES S. DINNING, associate professor of biochemistry, has been appointed assistant dean by Dr. DOUGLAS LAWRASON, dean and provost for medical affairs. Dr. Dinning will be responsible mainly for student activities at the school.

Dr. JOHN T. RIGGIN, assistant professor in the department of medicine, will retain his position as assistant dean in charge of preceptorships, the intern and residency program and post graduate medical education.

Dr. T. C. PANOS, professor of pediatrics at the University of Texas Medical Branch at Galveston, has been appointed head of the department of pediatrics. Dr. Panos will succeed Dr. KATHARINE DODD, who retired June 30, as head of the department.

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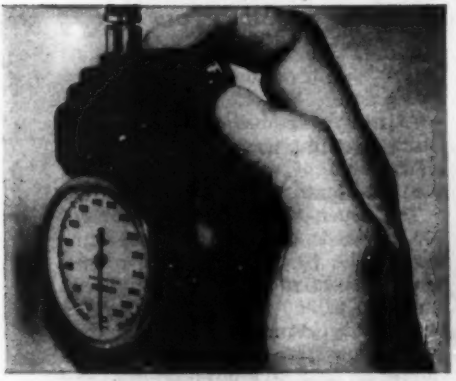

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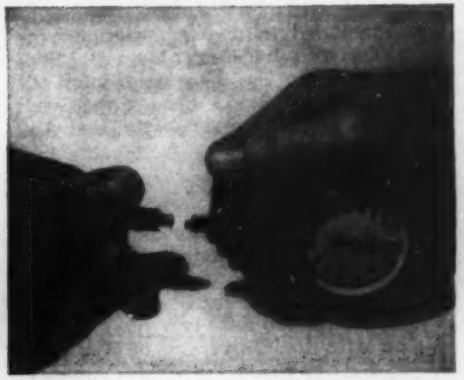

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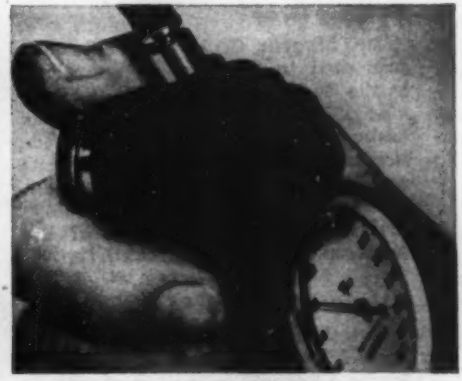

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Construction on a new $2 million dormitory at the Medical Center will start in January. The 10-story building will be financed by federal funds, with the indebtedness to be retired by student rental payments.

The dormitory will represent a new concept in student housing by furnishing quarters for married and single students in the same building.

Included in the construction contract is the Jeff Banks Memorial Student Union Building, named for the late Dr. Jeff Banks, head of the Gross Anatomy department, who died August 13.

Albany

Dr. ARTHUR KNUDSON, professor emeritus of biochemistry at Albany Medical College, departed from the country recently for Bogor, Indonesia, where for the next two years he will be with the University of Kentucky Project as professor of biochemistry, aiding in the agricultural and veterinary science program at the University of Indonesia.

Bowman Gray

Dr. MARTIN G. NETSKY has been promoted to professor of neurology in the Bowman Gray School of Medicine of Wake Forest College and has assumed the directorship of the section on neurology, replacing Dr. RICHARD L. MASLAND, who is now assistant director of the Institute of Neurological Diseases and Blindness of the National Institutes of Health.

Chicago Medical School

A testimonial dinner honoring Dr. JOHN J. SHEININ, president of Chicago Medical School, on the completion of his first 25 years of association with the school, was held on November 26 in the Grand Ballroom of the Conrad Hilton Hotel. The dinner not only honored Dr. Sheinin, but also launched the first capital fund drive of the institution for $3,600,000. The funds will be used for a new clinic and research building in the heart of Chicago's five-billion-dollar West Side Medical Center where the school holds 9.63 acres of land.

Cincinnati

Dr. EDWARD A. GALL of the University of Cincinnati College of Medicine has been invited by the Yale University School of Medicine, New Haven, Connecticut, to serve December 11-13 as visiting professor of pathology there.

Duke

A new $4.5-million addition to Duke Hospital was formally opened on Dec. 11 at the Duke University Medical Center.

The seven-story addition provides 100 new beds, bringing the total number to 660; 10 new operating rooms; new out-patient facilities that can serve up to 500 persons per day; an ambulatory dining room, a central tray-preparation room for bed patients; an intensive nursing unit; and other facilities.

The addition was opened in connection with Duke University Founders Day exercises. Dr. JOHN B. YOUMANS, dean of the Vanderbilt University Medical School, delivered the Founders Day address. Dr. W. S. Rankin of Charlotte, former director of the Hospital and Orphan Sections of the Duke Endowment, was principal speaker for the opening exercises.

Louisville

Dr. ALEX J. STEIGMAN, chairman, department of pediatrics, is spending three months as Visiting Director of Professional Education at the Kauikeolani Children's Hospital, Honolulu.

Missouri

The University of Missouri has received a grant of $373,000 from the National Institutes of Health, U. S. Department of Health, Education, and Welfare, for construction of an addition to the new medical center of the university, to house clinical research facilities of the school of medicine,

it was announced by President Elmer Ellis.

Nebraska

Dr. CHARLES RICHARDS, associate professor of internal medicine and director of dispensary clinics will leave Omaha next month for extensive travels abroad. His eventual destination will be Chiengmai, Thailand, where he will represent the United States government in helping the Thais set up a medical school there. He will serve as advisor on medical education—the Thai counterpart of an American college dean—for two years.

New York University

Dr. JONAS E. SALK received the first Albert Gallatin Award Tuesday, November 12, at the annual dinner of The Albert Gallatin Associates of New York University in the Hotel Pierre.

The award is to be given each year to a graduate of the university who has made a "contribution of lasting significance to society." Dr. Salk obtained his M.D. degree at NYU's College of Medicine in 1939 and is now professor of preventive medicine at the University of Pittsburgh.

Dr. CHANDLER A. STETSON, JR., has been nominated by the Board of Trustees of New York University as professor and chairman of the department of pathology of NYU College of Medicine. Dr. Stetson's appointment will become effective at the close of the 1957-58 academic years, when Dr. LEWIS THOMAS, the present incumbent of the chair, becomes chairman of the department of medicine.

Dr. EMERY A. ROVENSTINE was awarded the Distinguished Service Award of the American Society of Anesthesiologists at its annual meeting held in Los Angeles, October 11-15. For the first time in the history of the society the honor was voted by acclamation after other nominees asked that their names be withdrawn.

Pennsylvania

Dr. JOHN MCK. MITCHELL, dean of the school of medicine at the University of Pennsylvania since 1948, has been appointed Presiding Dean of the university's two medical schools.

In his new post, Dr. Mitchell will coordinate the programs of the school of medicine, where he continues to serve as administrative head, and the graduate school of medicine, of which Dr. GEORGE B. KOELLE is dean.

In addition, Dr. Mitchell becomes executive officer of a new Joint Medical Council the creation of which was concurrently announced by President Harnwell.

The Council, with Dr. I. S. RAVDIN as chairman, will advise Dr. Mitchell on educational policy and procedures, and will help to integrate more closely the work of the the university's medical schools and hospitals.

The other members who have been elected to the advisory Council are: Drs. HENRY L. BOCKUS, DALE R. COMAN, WILLIAM E. EHRICH, ARTHUR FINKELSTEIN, SAMUEL GURIN, HERBERT R. HAWTHORNE, DONALD M. PILLSBURY, and FRANCIS C. WOOD.

Stanford

Stanford University's Science Quad soon will get a new $124,000 biophysics research laboratory. Dr. HENRY S. KAPLAN, head of Stanford Medical School's radiology department, will direct the new laboratory.

Utah

Dr. ROBERT ELY, associate professor of pediatrics, recently received in San Francisco the 1957 Ross Award for Pediatric Research. This award, consisting of a plaque and $1,000, is made annually by the Western Society for Pediatric Research. Dr. Ely's prize-winning research was concerned with corticosterone metabolism in rheumatic fever.

The Personnel Exchange

Faculty Vacancies

• PRINCIPAL SCIENTIST: For the research program of newly established Radioisotope Laboratory in 500 bed V. A. GM&S Hospital; full time teaching and research position with Medical School Staff appointment. Candidates should have a Ph.D. degree in physics, biophysics, or biochemistry. Opportunity for independent research. Salary range $7465-$8845, depending on qualifications and experience. Address: Chief, Radioisotope Service, V. A. Hospital, Little Rock, Arkansas.

• NEURO-PHYSIOLOGIST: Vacancy for assistant professor on regular medical faculty in department of physiology and pharmacology and affiliation with clinical neurology. Salary depends upon qualifications. Address: Dr. F. G. Hall, chairman, Department of Physiology and Pharmacology, Duke University School of Medicine, Durham, N. C.

• OBSTETRICS—GYNECOLOGY: Full-time teacher, administrator and investigator for department with active student and house staff program in well-known medical school and general hospital. Person interested in academic medicine as a career desired, preferably under 35. Rank and salary dependent upon qualifications. Address: V-62.

• INSTRUCTORSHIP: Position of instructor of surgery (anesthesia) available immediately at University of California Medical Center. Write John B. Dillon, M.D., professor of Surgery (Anesthesia), University of California Medical Center, Los Angeles 24, California.

• WANTED: Associate to well-established professor in Eastern medical school for proctologic surgery (colon and rectum). Should have A.B.S. or A.B.P., or be willing to obtain necessary training for same. Professorial status available in five years. Must be willing to work and teach; interested in research. Character and personality of utmost importance. Good salary. Address: V-63.

• WANTED: ASCP Registered Medical Technologist with Master's Degree to direct Curriculum of Medical Technology, Department of Pathology, Marquette University School of Medicine. Position is chiefly administrative and teaching. Salary open. Reply: Dr. J. F. Kuzma, Director of Department of Pathology.

• SURGEON: To head university service in veterans hospital, directing residency program and teaching in medical school. Extensive research facilities available in both veterans hospital and school. Full-time candidate preferred. Address: C. R. Hanlon, M.D., Director, Department of Surgery, Saint Louis University School of Medicine, 1325 S. Grand Blvd., Saint Louis 4, Missouri.

• UNIVERSITY OF CAPE TOWN, SOUTH AFRICA: Senior lecturer in physiology. Will teach medical and science students, and be responsible for experimental laboratories. Salary £1980 per annum plus temporary cost of living allowance for a married man (at present £324 per annum). Two copies of application should be sent to Secretary, Association of Universities of the British Commonwealth, 36, Gordon Square, London, W.C.1. A third copy should be sent Air Mail to the Registrar, University of Cape Town, Private Bag, Randebosch, South Africa.

• BASIC SCIENCE Ph.D.'s: wanted for expansion of Ophthalmology Department at Ohio State University. Special interest in young men with biochemical, biophysical or physiologic backgrounds. William H. Havener, M.D., Acting Chairman.

• PHYSIOLOGIST: To work in Surgical Research Department. Rank, salary, and possible dual appointment depend on qualifications. Primary responsibilities: Gastrointestinal problems and intravenous fat emulsions. Opportunity for own development. Isotope experience desired. Address: Department of Surgery, Louisiana State University School of Medicine, New Orleans, La.

• PUBLIC HEALTH ENGINEER: $6,000-$8,000. Health Educator; $4,000-$6,000. Liberal expense allowances, excellent working conditions, reply stating education and experience to: Buncombe County Health Department, P. O. Box 7325, Asheville, N. C.

• INSTRUCTOR IN ANESTHESIOLOGY: Position will be available after April 1 1958 at University of Miami School of Medicine. Write J. Gerard Converse, M.D., professor in anesthesiology, University of Miami School of Medicine at Jackson Memorial Hospital, Miami 36, Fla.

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Doctor I. S. Kleiner, the original author, had the help and assistance of Doctor James M. Orten, an experienced biochemical teacher and investigator, in this revision.

By ISRAEL S. KLEINER, Ph.D., Professor of Biochemistry and Director of the Department of Biochemistry, New York Medical College; and JAMES M. ORTEN, Ph.D., Professor of Physiological Chemistry, Wayne State University College of Medicine, Detroit. Available soon. 1958, 5th edition, approx. 808 pages, 6½" x 9½", illustrated. Price $9.00.

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By ISRAEL S. KLEINER, Ph.D., Professor of Biochemistry and Director of the Department, New York Medical College, Flower and Fifth Avenue Hospitals; and LOUIS B. DOTTI, Ph.D., Chemist, St. Luke's Hospital. 1954, 4th edition, 285 pages 7¾" x 10½", illustrated. Price, $3.50.

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Intended to narrow the gap between freshman anatomy and operative surgery, this book is the culmination of the author's long experience in teaching gross and topographic anatomy.

Particular attention has been given to accuracy in the anatomic details, both in the text and in the illustrations. All of the drawings are original; many are presented in their dimensional views; and all are analogous to the text. Hundreds are in two, three or four colors.

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This treatise is strongly based in the belief that in surgical diagnosis it is particularly advantageous to the student to have a well organized plan or method to guide him, and that such plan must be simple, concise and workable.

The method suggested here satisfies these requisites and has served the author well for the past twenty-five years. It consists of the following steps: 1. A well-taken history; 2. A careful evaluation of the symptom complex; 3. A properly conducted physical examination; 4. Consideration of pertinent laboratory data.

Pursuing this sequence, this easy-to-read text describes, illustrates and interprets the cardinal signs associated with various diseases. And on a basis of anatomy, physiology, biochemistry and other basic sciences, and through analysis of clinical findings points up the significant differences leading to accurate diagnosis and competent therapy.

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Information for these columns should reach the Personnel Exchange, Journal of Medical Education, 2530 Ridge Avenue, Evanston, Illinois, not later than the 10th of the month which precedes the month in which the listings will appear.

Personnel Available

• Ex-professor of medicine, graduated from South American faculty, specialized in cardiology, would consider offers for teaching medicine in an Eastern university. Best references. Address: A-297.

• Internist: 39 years, certified, associate professor of medicine, head of large medical service with training programs for [redacted], interns, residents, postgraduate fellows and medical students. Research and publications. Desires position with medical school heading section or department. Research opportunities desired, practice optional. Address: A-298.

• Clinical and Research Psychologist: Ph.D., male, on full-time medical school faculty. Now heading psychology unit in large medical school and directing extensive research grant and contract program. Scientific publications, member of professional and honorary societies. Desires similar position: heading department and part teaching, part research, at associate professor level. Address: A-299.

• Endocrinologist: 29, married with family; Ph.D. in zoology, 1955; Teaching experience in physiology and endocrinology; now in second year as NIH postdoctoral fellow; research interests in reproductive and lactational physiology; publications; desires teaching-research position. Will attend Federation meeting. Address: A-300.

• Psychiatrist: 35, M.D. and M.P.H. degrees; Board-certified in psychiatry, with training and experience in clinical, community, and public health psychiatry, and in administration, teaching and research. Publications. Currently assistant professor of psychiatry at outstanding medical school. Desires appointment at higher level on faculty of medical school or school of public health. Address: A-301.

• University Graduate, 27, wants medical writing job with reputable company. February 1957 graduate of University of Missouri, B.J. and B.A. in zoology. Address: A-302.

• Obstetrician-Gynecologist: Age 36, Full-time teaching experience in U. S. and abroad. Currently instructor at medical school; seeks relocation and advancement. Available beginning 1958. Address: A-303.

• Registered Nurse, Journalism Training: Seeks medical writing position. Medical secretarial, laboratory experience. Publications. Address: A-304.

• Physician: Australian, 35, international postgraduate training (Australia, Britain, U.S.A.) basic sciences (pathology, physiology) and clinical medicine (pulmonary and heart disease) publications, society memberships, teaching experience. Main interest cardiopulmonary disease. Wants faculty appointment U.S.A. Available as soon as immigration formalities completed. Address: A-305.

• Cardiologist-Internist: Board certified 1951, Fellow A.C.P. 1953. Sub-specialty board in Cardiovascular Diseases eligible, for at present am completing a two years training program in same. This has included research, teaching, hypertension and renal diseases; cardiac catheterization, clinical cardiology and electrocardiography. Desire career in academic medicine including teaching, investigation and clinical practice as a full-time appointment. Available July 1958. Address: A-306.

• Anatomist: Ph.D., age 32, married. Desires teaching and research position with opportunity to complete studies for M.D. degree. Available June, 1958. Address: A-307.

• Professor of Pharmacology: M.D., Ph.D., age 60, active in teaching and research after mandatory retirement from medical school, at present at a Mid-Western osteopathic college, would like teaching and/or research position. Presently pursued research opens new approach to the problem of *diet in heart disease*, by investigating the direct conversion of chemical into electrical in the tissues, in a novel manner. This work is supported by research grants from the National Heart Institute and the American Heart Association totaling $14,300 annually, and endorsed by the highest medical authorities. Detailed information will be given on request. Address: A-308.

Publications

Useful information for both medical educators and students is published by the Association of American Medical Colleges. These publications may be obtained from the Association headquarters office, 2530 Ridge Avenue, Evanston, Ill.

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Admission Requirements of American Medical Colleges—1957-58 ($2.00).
Fellowships, Funds and Prizes Available for Graduate Medical Work in the U.S. and Canada—4th edition, published 1954 ($1.50).
By-Laws of the Association of American Medical Colleges (Revised 1955).
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The Appraisal of Applicants to Medical School (Report of the 1956 Institute).

Medical Audio-Visual Institute Publications

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Reprints from the Audiovisual News Section of the Journal of MEDICAL EDUCATION.
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Films in the Cardiovascular Diseases (Part I available from the American Heart Assn.), 44 E. 23rd St., New York 10, N.Y. ($2.00).
Part II available from the Medical A-V Institute ($2.00).

Publications of Related Organizations

Hospitals Participating in the Matching Program 1958 (NIMP).
Results of the Matching Program 1958 (NIMP publication).
The Student and the Matching Program 1958 (NIMP publication).
Medical College Admission Test—Bulletin of Information 1957 (Educational Testing Service publication).
Psychiatry in Medical Education—1951 Conference ($1.00).
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(The above can be obtained from: American Psychiatric Assn., 1785 Massachusetts Avenue, NW, Washington, D.C.).

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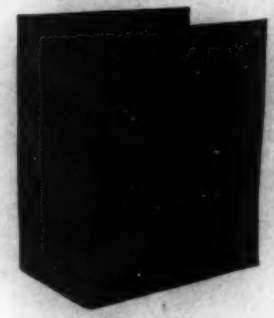

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• INTERNIST: Age 33, Diplomate American Board of Internal Medicine, 1956. Fulltime teaching position since 1954. Experience with I-131 in thyroid disease and interested in clinical endocrinology and metabolism. Publications. Desire relocation in academic or quasi-academic situation. Will consider any challenging position. Available immediately. Address: A-310.

• SENIOR SURGEON & UROLOGIST: M.D., F.I.C.S., full-time teacher and research scientist at medical school, metropolitan area; numerous publications (3 books), desires a change on associate professor level; research, teaching, medical educational programs. Will consider U.S. and abroad. Address: A-311.

• ANATOMIST: Ph.D., male. At present assistant professor of anatomy. Teaching experience in both gross and microscopic anatomy. Publications. Desires position in medical or dental school. Can arrange to be available immediately. Address: A-312.

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